

Facility: DCPD		Date of Exam: 4/10/00		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	6				2	3			1	16
	2	4	3	1				3	5			1	17
	3	0	0	1				1	1			0	3
	Tier Totals	6	5	8				6	9			2	36
2. Plant Systems	1	4	1	2	3	1	1	2	2	2	2	3	23
	2	4	0	3	1	1	1	1	2	3	2	2	20
	3	0	1	1	0	1	0	2	1	0	2	0	8
	Tier Totals	8	2	6	4	3	2	5	5	5	6	5	51
3. Generic Knowledge and Abilities				Cat 1		Cat 2		Cat 3		Cat 4		13	
				3		4		2		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>													

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				AK3.02 basis of rod insertion limit	3.6	1
000015/17 RCP Malfunctions / 4	5				1			AA1.22 RCP seal failure	4.0	1
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4	9			1				EK3.1 steam flow effect on natural circulation flow	3.3	1
000024 Emergency Boration / 1	12					1		AA2.05 emergency boration for stuck control rods	3.3	1
000026 Loss of Component Cooling Water / 8	16			1				AK3.02 manual phase A impact	3.6	1
000027 Pressurizer Pressure Control System Malfunction / 3	19		1					AK2.03 backup transmitter failure effects	2.6	1
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4	23	1						AK1.06 pressurizer level indication vs actual	3.7	1
CE/A11; W/E08 RCS Overcooling - PTS / 4	27		1					EK2.2 feed flow/level SG uncontrolled depressurization	3.6	1
000051 Loss of Condenser Vacuum / 4	30					1		AA2.02 turbine trip conditions	3.9	1
000055 Station Blackout / 6	34			1				EK3.02 EOP transition	4.3	1
000057 Loss of Vital AC Elec. Inst. Bus / 6	37					1		AA2.19 loss of instrumentation vital bus	4.0	1
000062 Loss of Nuclear Service Water / 4										
000067 Plant Fire On-site / 9	57	1						AK1.02 Halon extinguish mechanism	3.1	1
000068 (BW/A06) Control Room Evac. / 8	42						1	G2.4.49 actions on evacuation	4.0	1
000069 (W/E14) Loss of CTMT Integrity / 5	46				1			EA1.3 CS/CFCU impact on containment pressure	3.3	1
000074 (W/E06&E07) Inad. Core Cooling / 4	51			1				EK3.08 RCP operation	4.1	1
BW/E03 Inadequate Subcooling Margin / 4										
000076 High Reactor Coolant Activity / 9	63			1				AK3.05 bases for cooldown on high RCS activity	2.9	1
BW/A02&A03 Loss of NNI-X/Y / 7										
K/A Category Totals:		2	2	6	2	3	1	Group Point Total:		16

ES-401

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

Form ES-401-4

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000001 Continuous Rod Withdrawal / 1	3	1					AK1.05 reactor / turbine mismatch	3.5	1
000003 Dropped Control Rod / 1	6	1					AK2.05 rod control urgent failure alarm status	3.1	1
000007 (BW/E02&E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1	10				1		EA2.02 pressurizer heater realignment	4.3	1
BW/A01 Plant Runback / 1									
BW/A04 Turbine Trip / 4									
000008 Pressurizer Vapor Space Accident / 3	13			1			AA1.08 tail pipe temperature	3.8	1
000009 Small Break LOCA / 3	17				1		EA2.02 cold leg break vs hot leg break	3.5	1
000011 Large Break LOCA / 3	20			1			EA1.15 RCS temperature vs RVLIS	4.2	1
W/E04 LOCA Outside Containment / 3									
BW/E08; W/E03 LOCA Cooledown/Depress. / 4									
W/E11 Loss of Emergency Coolant Recirc. / 4	24	1					EK1.3 RHR pump restart	3.6	1
W/E01 & E02 Rediagnosis & SI Termination / 3	28		1				EK2.1 feedwater isolation reset	3.4	1
000022 Loss of Reactor Coolant Makeup / 2	31				1		AA2.01 charging line break	3.2	1
000025 Loss of RHR System / 4	35			1			AA1.02 high steam velocity in surge line	3.8	1
000029 Anticipated Transient w/o Scram / 1	38					1	EA2.09 AMSAC condition indication	3.7	1
000032 Loss of Source Range NI / 7									
000033 Loss of Intermediate Range NI / 7	43	1					AK1.01 overcompensated detectors	2.7	1
000037 Steam Generator Tube Leak / 3									
000038 Steam Generator Tube Rupture / 3	48		1				EK3.08 RCP trip criteria	4.1	1
000054 (CE/E06) Loss of Main Feedwater / 4	52				1		AA2.05 feedwater control valves after reator trip and safety injection	3.5	1
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4									
000058 Loss of DC Power / 6	58				1		AA2.03 breaker operation without DC control power	3.5	1
000059 Accidental Liquid RadWaste Rel. / 9	65		1				AK2.01 system response to radiation alarm	2.7	1
000060 Accidental Gaseous Radwaste Rel. / 9									
000061 ARM System Alarms / 7									
W/E16 High Containment Radiation / 9	69	1					EK1.3 purge radiation monitor and CVI bypassed	3.0	1
CE/E09 Functional Recovery									
K/A Category Point Totals:	4	3	1	3	5	1	Group Point Total:		17

ES-401		PWR RO Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 3						Form ES-401-4		
E/APE # / Name / Safety Function		K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000028 Pressurizer Level Malfunction / 2	74				1			AA1.01 pressurizer level channel (RPS) high	3.8	1
000036 (BW/A08) Fuel Handling Accident / 8										
000056 Loss of Off-site Power / 6	87			1				AK3.02 monitoring void growth	4.4	1
000065 Loss of Instrument Air / 8	94					1		AA2.08 equipment control	2.9	1
BW/E13&E14 EOP Rules and Enclosures										
BW/A05 Emergency Diesel Actuation / 6										
BW/A07 Flooding / 8										
CE/A16 Excess RCS Leakage / 2										
WE13 Steam Generator Over-pressure / 4										
WE15 Containment Flooding / 5										
K/A Category Point Totals:		0	0	1	1	1	0	Group Point Total:		3

ES-401													PWR RO Examination Outline Plant Systems - Tier 2/Group 1				Form ES-401-4	
System # / Name		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points			
001 Control Rod Drive	1		1										K2.05 power supply	3.1	1			
003 Reactor Coolant Pump	8					1							K5.02 RCP coastdown	2.8	1			
003 Reactor Coolant Pump	2											1	2.1.12 RCP technical specification	2.9	1			
004 Chemical and Volume Control	11	1											K1.18 excessive CCW to LDHX	2.9	1			
004 Chemical and Volume Control	15									1			A3.01 dilute mode	3.5	1			
013 Engineered Safety Features Actuation	18								1				A2.04 response to instrument bus failure	3.6	1			
013 Engineered Safety Features Actuation	22				1								K4.01 safety injection reset	3.9	1			
013 Engineered Safety Features Actuation	26							1					A1.01 restart ECCS	4.0	1			
015 Nuclear Instrumentation	29						1						K6.02 degraded compensating voltage	2.6	1			
015 Nuclear Instrumentation	33										1		A4.02 comparator circuit	3.9	1			
015 Nuclear Instrumentation	99											1	2.1.7 heat balance error effect	3.7	1			
017 In-core Temperature Monitor	36	1											K1.02 valid CET alarms	3.3	1			
022 Containment Cooling	40										1		A4.01 monitor RCS leakage	3.6	1			
022 Containment Cooling	45							1					A1.04 standby automatic start	3.2	1			
056 Condensate	50								1				A2.04 condensate pump trip effects	2.6	1			
059 Main Feedwater	55				1								K4.05 digital speed control	2.5	1			
059 Main Feedwater	60									1			A3.06 P-14 automatic operation	3.2	1			
061 Auxiliary/Emergency Feedwater	66											1	2.1.10 CST technical specification basis	2.7	1			
061 Auxiliary/Emergency Feedwater	72	1											K1.03 motive steam	3.5	1			
061 Auxiliary/Emergency Feedwater	76			1									K3.02 level response to break	4.2	1			
068 Liquid Radwaste	80	1											K1.07 radwaste sources	2.7	1			
071 Waste Gas Disposal	90			1									K3.05 waste gas rupture	3.2	1			
072 Area Radiation Monitoring	85				1								A4.03 RM instrument operation	3.1	1			
K/A Category Point Totals:		4	1	2	3	1	1	2	2	2	2	3	Group Point Total:		23			

ES-401		PWR RO Examination Outline Plant Systems - Tier 2/Group 2											Form ES-401-4		
System # / Name		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
002 Reactor Coolant	41					1							K5.11 RCP effects on SG level	4.0	1
002 Reactor Coolant	93											1	G2.1.28 technical specification bases	4.1	1
006 Emergency Core Cooling	44				1								K4.16 RHR interlocks	3.4	1
006 Emergency Core Cooling	97						1						K6.03 pressure > shutoff head	3.6	1
010 Pressurizer Pressure Control	91	1											K1.09 channel failure impact	3.9	1
011 Pressurizer Level Control	47			1									K3.01 level control effect on CVCS	3.2	1
012 Reactor Protection	53									1			A3.04 manual reset switches	3.3	1
012 Reactor Protection	81	1											K1.03 OT?T rod stop / runback	3.7	1
014 Rod Position Indication	49								1				A2.02 loss of power impact	3.1	1
016 Non-nuclear Instrumentation	67	1											k1.01 reactor vessel level	3.4	1
026 Containment Spray	79									1			A3.01 monitor pump / valve	4.3	1
029 Containment Purge	64											1	2.1.12 technical specification application	2.9	1
033 Spent Fuel Pool Cooling	71								1				A2.03 loss of water impact on SFP	3.1	1
035 Steam Generator	56			1									K3.03 steam flow from pipe break	3.0	1
039 Main and Reheat Steam	75										1		A4.01 manual operations	2.9	1
039 Main and Reheat Steam	89										1		A4.01 power effects on MSIV	2.9	1
055 Condenser Air Removal															
062 AC Electrical Distribution	62	1											K1.02 DG / AC interface	4.1	1
063 DC Electrical Distribution	84			1									K3.02 loss of vital DC	3.5	1
064 Emergency Diesel Generator	59							1					A1.03 DG parameter control	3.2	1
073 Process Radiation Monitoring	95									1			A3.02 release termination	4.0	1
079 Station Air															
086 Fire Protection															
K/A Category Point Totals:		4	0	3	1	1	1	1	2	3	2	2	Group Point Total:		20

ES-401		PWR RO Examination Outline Plant Systems - Tier 2/Group 3											Form ES-401-4			
System # / Name		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points	
005 Residual Heat Removal	82		1										K2.03 response to PT failure	2.7	1	
005 Residual Heat Removal	100										1		A4.01 RHR indication	3.6	1	
007 Pressurizer Relief/Quench Tank	73								1				A2.01 PORV failure effects	3.9	1	
008 Component Cooling Water	98							1					A1.04 CCW leak indications	3.1	1	
027 Containment Iodine Removal	86					1							K5.01 charcoal filter use	3.1	1	
028 Hydrogen Recombiner and Purge Control	92										1		A4.01 recombinder controls	4.0	1	
034 Fuel Handling Equipment																
041 Steam Dump/Turbine Bypass Control	73							1					A1.01 steam dump operations	2.9	1	
045 Main Turbine Generator	68			1									K3.01 loss of main turbine generator	2.9	1	
076 Service Water																
078 Instrument Air																
K/A Category Point Totals:		0	1	1	0	1	0	2	1	0	2	0	Group Point Total:		8	
Plant-Specific Priorities																
System / Topic		Recommended Replacement for...										Reason		Points		
Plant-Specific Priority Total: (limit 10)																

Facility: DCPD Units 1/2		Date of Exam: April 10, 2000		Exam Level: RO	
Category	K/A #	Topic	Imp.	Points	
Conduct of Operations	2.1.7	Pant performance & operational judgement	7	3.7	1
	2.1.25	Interpret performance data	25	2.8	1
	2.1.10	Facility license condition and limitation	88	2.7	1
	2.1.				
	2.1.				
	2.1.				
	Total				
Equipment Control	2.2.22	Limiting condition for operation	21	3.4	1
	2.2.25	Technical specification bases	54	2.5	1
	2.2.2	Manipulate controls (pressurizer heater	70	4.0	1
	2.2.2	Manipulate controls (control room vent.)	32	4.0	1
	2.2.				
	2.2.				
	Total				
Radiation Control	2.3.10	Reduce personnel exposure	39	2.9	1
	2.3.11	Control radiation release	78	2.7	1
	2.3.				
	2.3.				
	2.3.				
	2.3.				
	Total				
Emergency Procedures/ Plan	2.4.6	EOP mitigation strategy	14	3.1	1
	2.4.25	Fire classification	83	2.9	1
	2.4.4	System operating parameters for EOPs	61	4.0	1
	2.4.8	EOP usage in mode 4	96	3.0	1
	2.4.				
	2.4.				
	Total				
Tier 3 Point Total (RO/SRO)					13/17



Facility: DCPD		Date of Exam: 4/10/00						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	A 2	A 3	A 4	G *	
1. Emergency & Abnormal Plant Evolutions	1	2	0	11				3	5			3	24
	2	1	2	5				1	4			2	16
	3	0	0	0				1	2			0	3
	Tier Totals	3	2	16				5	11			5	43
2. Plant Systems	1	1	1	1	3	4	2	2	3	1	1	0	19
	2	1	1	1	1	2	0	2	5	0	2	2	17
	3	0	0	0	0	0	0	1	2	1	0	0	4
	Tier Totals	2	2	2	5	6	2	7	10	2	3	2	40
3. Generic Knowledge and Abilities					Cat 1		Cat 2		Cat 3		Cat 4		17
					5		4		4		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>													

ES-401		PWR SRO Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 1							Form ES-401-3	
E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points	
000001 Continuous Rod Withdrawal / 1 #99					05		AA2.05 Plt effects from uncntrl'd Rod W/D	4.6	1	
000003 Dropped Control Rod / 1 #43				06			AA1.06 Ability to monitor effect on Tave due to Dropped Rod	4.1	1	
000005 Inoperable/Stuck Control Rod / 1 #6			06				AK306 Action in EOPs for Stuck Rod	4.2	1	
000011 Large Break LOCA / 3 #42						1	G2.4.22 K/O prioritizing safety functions during Emerg. 55.43(5)	4.0	1	
W/E04 LOCA Outside Containment / 3 #73	.2						EK1.2 K/O EOPs assoc'd with LOCA outside containment	4.2	1	
W/E01 & E02 Rediagnosis & SI Termination / 3#12/74			.3		.1		EK3.3 Manipulation of controls during Emerg. Restart of RCPs EA2.1 Ability to determine the appropriate procedure	3.9 4.2	2	
000015/17 RCP Malfunctions / 4 #71			07				AK3.07 K/O reasons for responses to ensure S/G level during Nat. Circ.	4.2	1	
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4 #15/#41	.1			.3			EK1.1 K/O operational impacts of NC & void inRVLIS EA1.3 Desired Opr'g results during abnormal conditions	3.4 3.7	2	
000024 Emergency Boration / 1 #7			02				AK 3.02 Actions contained in EOPs	4.4	1	
000026 Loss of Component Cooling Water / 8 #9						1	G2.12 Ability to apply TS for a system	4.0	1	
000029 Anticipated Transient w/o Scram / 1 #5			12				EK 3.12 Actions in EOPs for ATWAS	4.7	1	
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4 #10			.1				EK3.1 K/O facility operating characteristics and effects on reactivity	3.9	1	
CE/A11; W/E08 RCS Overcooling - PTS / 4 #11				.2			EA1.2 Ability to monitor oper'g behavior as related to PTS	3.9	1	
000051 Loss of Condenser Vacuum / 4 #14					02		AAS 2.02 Ability to dtermine/interpret conditions for Reactor trip	4.1	1	
000055 Station Blackout / 6 #8			02				EK3.02 K/O actions in EOPs for SBO; Why stop depressurizing	4.6	1	
000057 Loss of Vital AC Elec. Inst. Bus / 6										
000059 Accidental Liquid RadWaste Rel. / 9 #87						1	2.3.11 Ability to control releases	3.2	1	
000067 Plant Fire On-site / 9 #72					15		AA2.15 Reqts for establishing fire watch	3.9	1	
000068 (BW/A06) Control Room Evac. / 8 #13			18				AK3.18 Actions in EOPs for CR Evacuation	4.5	1	
000069 (W/E14) Loss of CTMT Integrity / 5 #2					.1		EA2.1 Facility conditions and selection of appropriate procedures	3.8	1	
000074 (W/E06&E07) Inad. Core Cooling / 4 #1/88			11 08				AK3.11 Guidance contained in EOP for ICC EK3.08 Securing the RCPs	4.4 4.2	2	
BW/E03 Inadequate Subcooling Margin / 4										
000076 High Reactor Coolant Activity / 9 #98			05				AK3.05 K/O corrective actions as a result of High fission products	3.1	1	
K/A Category Totals:	2	0	11	3	5	3	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 #37		.1					EK2.1 K/O interrelations between reactor trip/SI and Auto functions	3.5	1
BW/A01 Plant Runback / 1									
BW/A04 Turbine Trip / 4 #38		.2					EK2.2 K/O Interrelations between reactor trip and proper oper. Of Ht RS.	3.8	1
000008 Pressurizer Vapor Space Accident / 3 #56			02				AK3.02 Exit temperature w/ Open PORV	4.1	1
000009 Small Break LOCA / 3 #3					01		EA2.01 Actions to be taken based upon RCS Pressure	4.8	1
BW/E08; W/E03 LOCA Cooldown - Depress. / 4									
W/E11 Loss of Emergency Coolant Recirc. / 4 #4			12				EK3.12 Actions in EOPs for Large Brk LOCA	4.6	1
000022 Loss of Reactor Coolant Makeup / 2 #54			02				AK3.02 K/O of responses to Loss of Makeup	3.8	1
000025 Loss of RHR System / 4									
000027 Pressurizer Pressure Control System #51 Malfunction / 3					04		AA2.04 Ability to determine & interpret a PPCS malf. Related to TS limits for RCS pressure 55.43(2)	3.9	1
000032 Loss of Source Range NI / 7 #55			01				AK3.01 K/O reason for SU termination on loss of SR 55.43(2)	3.6	1
000033 Loss of Intermediate Range NI / 7									
000037 Steam Generator Tube Leak / 3 #52					05		AA2.05 Ability to determine & Interp. Past leakage W/ current	3.3	1
000038 Steam Generator Tube Rupture / 3 #53			06				EK3.06 Actions contained in EOPs	4.5	1
000054 (CE/E06) Loss of Main Feedwater / 4 #50				01			AA1.01 Ability to monitor & predict effects of loss of MFW 55.43(5)	4.4	1
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4 #57	2						EK1.2 K/O basis of EOPs in Loss of Secondary HS	4.5	1
000058 Loss of DC Power / 6									
000060 Accidental Gaseous Radwaste Rel. / 9 #47							G2.3.1 K/O 10CFR20 and facility rad control reqts 55.43(4)	3.0	1
000061 ARM System Alarms / 7									
W/E16 High Containment Radiation / 9 #100	.3						EK1.3 K/Oannunciators & signals	3.6	1
000065 Loss of Instrument Air / 8 #49					08		AA 2.08 Ability to determine failure mode of air operated equipment	3.3	1
CE/E09 Functional Recovery #60						1	G2.4.4 Ability to recognize abnormal conditions which are entry conds to EOP 55.43(2)	4.3	1
K/A Category Point Totals:	2	2	5	1	4	2	Group Point Total:		16

ES-401

PWR SRO Examination Outline  
Emergency and Abnormal Plant Evolutions - Tier 1/Group 3

Form ES-401-3

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000028 Pressurizer Level Malfunction / 2 #62					09		AA2.09 Ability to determine/interpret chg'g & Ltdwn flow as a result of PLCS malfunction	3.2	1
000036 (BW/A08) Fuel Handling Accident / 8 #58				04			AA1.04 Ability to handle fuel handling equipment during an incident 55.54(7)	3.7	1
000056 Loss of Off-site Power / 6 #61					48		AA2.48 Ability to determine/interpret RCS temperature/pressure/ Pzr lvl	4.4	1
BW/E13&E14 EOP Rules and Enclosures									
BW/A05 Emergency Diesel Actuation / 6									
BW/A07 Flooding / 8									
CE/A16 Excess RCS Leakage / 2									
W/E13 Steam Generator Over-pressure / 4									
W/E15 Containment Flooding / 5									
K/A Category Point Totals:				1	2		Group Point Total:		3

ES-401		PWR SRO Examination Outline Plant Systems - Tier 2/Group 1											Form ES-401-3	
System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
001 Control Rod Drive #39					10							K5.10 K/O Opr impact of rod motion on pwr distrib. & temperature	4.1	1
003 Reactor Coolant Pump #22					05							K505 K/O oper impact of RCPs on RCS flow	3.0	1
004 Chemical and Volume Control #21/#65						10 20						K6.10 K/O BIT Recirc K6.20 K/O Malf. & Demin Temp.	3.1 3.1	2
013 Engineered Safety Features Actuation#20/92					02						02	K5.02K/O safety system logic & reliability A4.02 Ability to reset ESFAS Ch	3.3 4.4	2
014 Rod Position Indication #34								04				A2.04 Ability to predict impact of misaligned rod on RPIS	3.9	1
015 Nuclear Instrumentation #35/ #91					11		01					K5.11 K/O Oper. Aspects of NIS & Flux A1.01 Ability to predict heat balance	3.7 3.8	2
017 In-core Temperature Monitor #64				03								K4.03 K/O Range of Temp Indication	3.3	1
022 Containment Cooling #16		01										K2.01 K/O pwr supplies to CFCUs	3.1	1
026 Containment Spray #23/#93				08				08				K4.08 Swapover to sump A2.08 Ability to secure CS pmps when safe	4.3 3.7	2
056 Condensate #17	13											K1.13 K/O cause/effect between Cond & AFW	2.6	1
059 Main Feedwater #19							07					A1.07 Ability to Mon./make chgs to MFP speed	2.6	1
061 Auxiliary/Emergency Feedwater #18								04				A2.04 Ability to predict & respond to improper operation	3.8	1
063 DC Electrical Distribution #95			02									K3.02 K/O Components using DC pwr	3.7	1
068 Liquid Radwaste #63									02			A3.02 Ability mon. auto isolation during liq. Rad waste discharge	3.6	1
061 Aux Feedwater				04								K404 K/O prevention of AFW runout	3.4	1
K/A Category Point Totals:	1	1	1	3	4	2	2	3	1	1	1	Group Point Total:	19	

ES-401

PWR SRO Examination Outline  
Plant Systems - Tier 2/Group 2

Form ES-401-3

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
002 Reactor Coolant #36/#77					14						1	K5.14 K/O Opr Impact for loss of forced circulation G2.1.28 K/O purpose and function of major system comp.	4.2 3.3	2
006 Emergency Core Cooling #24		02										K2.02 K/O pwr supply to Accum valves	2.9	1
010 Pressurizer Pressure Control #27			01									K3.01 K/O effect of malf in PLCS will have on the RCS	3.9	1
011 Pressurizer Level Control #28								10				A2.10 Ability to predict impact of lvi instr fails HI	3.6	1
012 Reactor Protection #25								06				A206 Ability to predict effect of a loss of trip signal	4.7	1
016 Non-nuclear Instrumentation														
027 Containment Iodine Removal														
028 Hydrogen Recombiner and Purge Control #90									03			A2.03 Oper. Of HRPS w/ H2/Air Conc. In excess of limit 55.43(5)	4.0	1
029 Containment Purge #44							02					A102 Ability to predict impact on sys due to Hi Radiation	3.4	1
033 Spent Fuel Pool Cooling #96							01					A1.01 Ability to mon. spent fuel pool level	3.3	1
034 Fuel Handling Equipment #70				02								K4.02 K/O design interlocks	3.3	1
035 Steam Generator #29					03							K5.03 K/O Oper impact of shrink & swell	3.1	1
039 Main and Reheat Steam #69	07											K1.07 K/O connections to AFW	3.4	1
055 Condenser Air Removal														
062 AC Electrical Distribution #30								04				A2.04 Ability to predict impact of deenergizing a bus	3.4	1
064 Emergency Diesel Generator #26											1	G2.1.7 Ability to eval plt performance & interpret instruments	4.4	1
073 Process Radiation Monitoring #89										01		A4.01 Ability to monitor in CR effluent release	3.9	1
075 Circulating Water #45								02				A2.02 Ability to predict impact of a los CWS pmp	2.7	1
079 Station Air														
086 Fire Protection														
103 Containment #68											01	A4.01 Ability to monitor in CR flow control	3.3	1
K/A Category Point Totals:	1	1	1	1	2	0	2	5	0	2	2	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 #31								01				A2.01 Ability to predict impact of and miti. CCW Surge Tnk Hi Level	2.9	1
007 Pressurizer Relief/Quench Tank #97								05				A2.05 Ability to predict PRT exceeding press. Limits	3.6	1
008 Component Cooling Water #33									08			A3.08 Ability to mon. auto actions upon a SIS	3.7	1
041 Steam Dump/Turbine Bypass Control #32							02					A1.02 Ability to predict chg in SDS based on chgs in stm press	3.2	1
045 Main Turbine Generator														
076 Service Water														
078 Instrument Air														
K/A Category Point Totals:	-	-	-	-	-	-	1	2	1	-	-	Group Point Total:		4
Plant-Specific Priorities														
System / Topic	Recommended Replacement for...						Reason						Points	
Plant-Specific Priority Total: (limit 10)														

Facility: DCCP		Date of Exam: 4/10/2000		Exam Level: S	
Category	K/A #	Topic	Imp.	Points	
#82 #75  Conduct of Operations #67 #76	2.1.2	K/O Oper. Responsibilities	4.0	1	
	2.1.4	K/O Shift Staffing Reqts	3.4	1	
	2.1.7	Ability to evaluate Plt perf. & make Oper. Judgements 55.43(5) #59	4.4	1	
	2.1.28	K/O purpose of Major system Components	3.3	1	
	2.1.32	Ability to apply system limits 55.43(1,2)	3.8	1	
	Total			5	
#83  #84  Equipment Control  #79 #66	2.2.8	K/O process of chg/test is a USQ 55.43(3)	3.3	1	
	2.2.18	k/o MANAGING MAINT. ACTIVITIES DURING S/D 55.43(5)	3.6	1	
	2.2.19	K/O Maint. Work order rqts 55.43(5)	3.1	1	
	2.2.25	K/O basis in TS for LCOs/Safety Limits 55.43(2)	3.7	1	
	Total			4	
#78/#85 #40  Radiation Control	2.3.1	K/O 10CFR20 & facility radiation control limits	3.0	2	
	2.3.6	K/O rad release permits 55.43(4)	3.1	1	
	2.3.11	Ability to control radiation releases	3.2	1	
	Total			4	
#46  #48 Emergency Procedures/ Plan #80	2.4.5	K/O Organization of Oper'g proc. For Emerg Conditions	3.6	1	
	2.4.8	K/O Events Based EOPs used w/ symptom based EOPs 55.43(5)	3.7	1	
	2.4.26	K/O facility prot. Reqts including Fire Prot. #81	3.3	1	
	2.4.40	K/O SRO respons. In E-Plan 55.43(5)	4.0	1	
	Total			4	
Tier 3 Point Total (SRO)				17	