

# **INITIAL SUBMITTAL**

**FARLEY INITIAL EXAM  
50-348 & 50-364/2001-301**

**JULY 23 - 27, 2001**

## **INITIAL SUBMITTAL**

**INITIAL OUTLINE SUBMITTALS  
NRC SUBMITTED/WRITTEN OUTLINES**

Facility: <b>FARLEY</b>		Date of Exam: 7/30/01		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	3	3				5	1			2	16
	2	3	4	3				3	3			1	17
	3	1	1	-				-	-			1	3
	Tier Totals	6	8	6				8	4			4	36
2. Plant Systems	1	2	2	2	3	1	2	2	2	3	2	2	23
	2	2	2	2	2	3	1	2	1	2	2	1	20
	3	1	1	-	2	-	-	-	1	1	1	1	8
	Tier Totals	5	5	4	7	4	3	4	4	6	5	4	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. 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 <math>\pm 1</math> from that specified in the table based on NRC revisions. The final exam must total 100 points.</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 SRO 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	05					4.4	Calculation of minimum S/D margin Recognize abnormal ind for entry to EOP/AOP	3.3/4.1 4.0/4.3	2
000015/17 RCP Malfunctions / 4				22			RCP seal failure/malfunction	4.0/4.2	1
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4		2					Facilities heat removal system proper operation	3.6/3.9	1
000024 Emergency Boration / 1		03					Controllers and positioners	2.6/2.5	1
000026 Loss of Component Cooling Water / 8						3.2	Facility ALARA program	2.5/2.9	1
000027 Pressurizer Pressure Control System Malfunction / 3				01			PZR heaters, spray and PORVs	4.0/3.9	1
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4			06				Containment pressure and temperature considerations	3.4/3.9	1
CE/A11; W/E08 RCS Overcooling - PTS / 4	3						Ann & cond indicating signals & remedial actions associated w/ PTS	3.5/4.0	1
000051 Loss of Condenser Vacuum / 4									
000055 Station Blackout / 6				05			Battery when approaching fully discharged	3.3/3.6	1
000057 Loss of Vital AC Elec. Inst. Bus / 6			01				EOP actions for loss of vital AC instrument bus	4.1/4.4	1
000062 Loss of Nuclear Service Water / 4				01	02		Nuclear service water temperature indications The cause of possible SWS loss	3.1/3.1 2.9/3.6	2
000067 Plant Fire On-site / 9			04				EOP actions for fire on site	3.3/4.1	1
000068 (BW/A06) Control Room Evac. / 8									
000069 (W/E14) Loss of CTMT Integrity / 5									
000074 (W/E06&E07) Inad. Core Cooling / 4				06			RCP	3.6/3.9	1
BW/E03 Inadequate Subcooling Margin / 4									
000076 High Reactor Coolant Activity / 9		01					Process radiation monitors	2.6/3.0	1
BW/A02&A03 Loss of NNI-X/Y / 7									
K/A Category Totals:	2	3	3	5	1	2	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			02				Tech-Spec limits on rod operability	3.2/4.3	1
000003 Dropped Control Rod / 1		05					CRD power supplies & logic circuits	2.5/2.8	1
000007 (BW/E02&E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1		03					Reactor trip status panel	3.5/3.6	1
BW/A01 Plant Runback / 1									
BW/A04 Turbine Trip / 4									
000008 Pressurizer Vapor Space Accident / 3					12		PZR level indicators	3.4/3.7	
000009 Small Break LOCA / 3						4.48	Interpret control room indications to verify system status and operation	3.5/3.8	
000011 Large Break LOCA / 3				13			Safety injection components	4.1/4.2	
W/E04 LOCA Outside Containment / 3	2						Procedures associated with LOCA outside containment	3.5/4.2	1
BW/E08; W/E03 LOCA Cooldown/Depress. / 4		1					Components & functions of control & safety systems	3.6/4.0	1
W/E11 Loss of Emergency Coolant Recirc. / 4									
W/E01 & E02 Rediagnosis & SI Termination / 3	3						Ann & con indicating signals & remedial act assoc w/ SI termination	3.5/3.8	1
000022 Loss of Reactor Coolant Makeup / 2				08			VCT level	3.4/3.3	1
000025 Loss of RHR System / 4			01				Shift to alternate flow path	3.1/3.4	1
000029 Anticipated Transient w/o Scram / 1									
000032 Loss of Source Range NI / 7				01			Manual restoration of power	3.1/3.4	1
000033 Loss of Intermediate Range NI / 7									
000037 Steam Generator Tube Leak / 3					06		S/G Tube failure	4.3/4.5	1
000038 Steam Generator Tube Rupture / 3			06				EOP actions for RCS water inventory bal, S/G tube rupture, & plant SD	4.2/4.5	1
000054 (CE/E06) Loss of Main Feedwater / 4	01						MFW break depressurizes the S/G	4.1/4.3	1
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4		1					Components & functions of control and safety systems	3.7/3.9	
000058 Loss of DC Power / 6									
000059 Accidental Liquid RadWaste Rel. / 9									
000060 Accidental Gaseous Radwaste Rel. / 9					05		Auto safety actions as a result of high ARM	3.7/4.2	1
000061 ARM System Alarms / 7									
W/E16 High Containment Radiation / 9									
CE/E09 Functional Recovery									
K/A Category Point Totals:	3	4	3	3	3	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		02					Sensors and detectors	2.6/2.7	1
000036 (BW/A08) Fuel Handling Accident / 8									
000056 Loss of Off-site Power / 6	01						Principle of cooling by natural circulation	3.7/4.2	1
000065 Loss of Instrument Air / 8						4.11	Knowledge of abnormal conditions procedures	3.4/3.6	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	1	-	-	-	1	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					05	08			08			Pur & pos switch of alarm for hi flux @ S/D Anticipation of criticality while adding + reac Interpretation of rod worth curves & use	2.9/3.2 3.9/4.0 3.5/3.9	3
003 Reactor Coolant Pump	03			03								RCP seal system Adequate lubrication of the RCP	3.3/3.6 2.5/2.8	2
004 Chemical and Volume Control			04								4.21	Para & logic used to asses status of SF Effect on CVCS from loss/malf of RCPS	3.7/4.3 3.7/3.9	2
013 Engineered Safety Features Actuation										02		Reset of ESFAS channels	4.3/4.4	1
015 Nuclear Instrumentation							04	01				Quadrant power tilt ratio Power supply loss or erratic operation	3.5/3.7 3.5/3.9	2
017 In-core Temperature Monitor			01								4.47	Ability to diagnose/recognize trends Natural circulation indications	3.4/3.7 3.5/3.7	2
022 Containment Cooling		01						02	01			Initiation of safeguards mode of operation Containment cooling fans Containment pressure	4.1/4.3 3.0/3.1 3.6/3.8	3
025 Ice Condenser														
056 Condensate	03											MFW	2.6/2.6	1
059 Main Feedwater				13								Feedwater fill for S/G upon loss of RCP's	2.9/2.9	1
061 Auxiliary/Emergency Feedwater		02		02		01						AFW automatic start. AFW electric drive pumps Controllers and positioners	4.5/4.6 3.7/3.7 2.5/2.8	3
068 Liquid Radwaste								04				Failure of automatic isolation	3.3/3.3	1
071 Waste Gas Disposal									02	13		Pressure reg sys for waste gas vent hdr Recovery from auto termination of gas release PRM alarm	2.8/2.8 3.0/3.1	2
072 Area Radiation Monitoring														
K/A Category Point Totals:	2	2	2	3	1	2	2	2	3	2	2	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						02						Effect on RCS from loss/malf of RCP	3.6/3.8	1
006 Emergency Core Cooling					02							Relationship between Acc vol & press	2.8/2.9	1
010 Pressurizer Pressure Control									02			Monitor auto operation of PZR pressure	3.6/3.5	1
011 Pressurizer Level Control									03			Monitor auto operation of charging & letdown	3.2/3.3	1
012 Reactor Protection							01					Trip setpoint adjustment	2.9/3.4	1
014 Rod Position Indication					01							Reason for diff between RPIS & step count	2.7/3.0	1
016 Non-nuclear Instrumentation										01		NNI channel select controls	2.9/2.8	1
026 Containment Spray	01										4.20	Operational implications of EOP cautions ECCS	3.3/4.0 4.2/4.2	2
029 Containment Purge										04		Containment evacuation signal	3.5/3.6	1
033 Spent Fuel Pool Cooling			01									Area ventilation systems	2.6/3.1	1
035 Steam Generator					01		01					S/G wide & narrow range level Effect of secondary par on reactivity	3.6/3.8 3.4/3.9	2
039 Main and Reheat Steam														
055 Condenser Air Removal			01									Main condenser	2.5/2.7	1
062 AC Electrical Distribution		01										Major system loads	3.3/3.4	1
063 DC Electrical Distribution								01				Grounds	2.5/3.2	1
064 Emergency Diesel Generator		02										Fuel oil pumps	2.8/3.1	1
073 Process Radiation Monitoring				01								Release termination when rad exceeds stpt	4.0/4.3	1
075 Circulating Water	01											SWS	2.5/2.5	1
079 Station Air														
086 Fire Protection				01								Adequate supply of water for FPS	3.1/3.7	1
K/A Category Point Totals:	2	2	2	2	3	1	2	1	2	2	1	Group Point Total:		20

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	13			10								Control of RHR HX outlet flow Physical connection with SIS	3.1/3.1 3.3/3.5	2
007 Pressurizer Relief/Quench Tank											3.2	Facility ALARA program	2.5/2.9	1
008 Component Cooling Water				09								The stdby feature for the CCW pumps	2.7/2.9	1
027 Containment Iodine Removal														
028 Hydrogen Recombiner and Purge Control		01										Hydrogen recombiners	2.5/2.8	1
034 Fuel Handling Equipment														
041 Steam Dump/Turbine Bypass Control									02			RCS press, RCS temp, & reactor power	3.3/3.4	1
045 Main Turbine Generator														
076 Service Water								02				Service water header pressure	2.7/3.1	1
078 Instrument Air										01		Pressure gages	3.1/3.1	1
103 Containment														
K/A Category Point Totals:	1	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: <b>FARLEY</b>		Date of Exam: 7/30/01		Exam Level: RO	
Category	K/A #	Topic	Imp.	Pnts	
Conduct of Operations	2.1.3	Shift turnover practices	3.0/3.4	1	
	2.1.20	Ability to execute procedure steps	4.3/4.2	1	
	2.1.32	Explain & apply all system limits & precautions	3.4/3.8	1	
Total				3	
Equipment Control	2.2.3	Design, procedural & operational differences between units	3.1/3.3	1	
	2.2.11	Process for controlling temporary changes	2.5/3.4	1	
	2.2.12	Knowledge of surveillance procedures	3.0/3.4	1	
	2.2.13	Tagging & clearance procedures	3.6/3.8	1	
Total				4	
Radiation Control	2.3.1	10CFR20 & related facility radiation control requirements	2.6/3.0	1	
	2.3.1	10CFR20 & related facility radiation control requirements	2.6/3.0	1	
Total				2	
Emergency Procedures/ Plan	2.4.6	Symptom based EOP mitigation strategies	3.1/4.0	1	
	2.4.7	Event based EOP mitigation strategies	3.1/3.8	1	
	2.4.11	Abnormal condition procedures	3.4/3.6	1	
	2.4.12	Crew responsibilities during EOP use	3.4/3.9	1	
Total				4	
Tier 3 Point Total (RO)				13	

Facility: <b>FARLEY</b>		Date of Exam: 7/30/01		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	4	4	4				5	4			3	24	
	2	1	2	2				2	6			3	16	
	3	1	1	-				-	1			-	3	
	Tier Totals	6	7	6				7	11			6	43	
2. Plant Systems	1	2	1	1	2	2	1	1	3	2	2	2	19	
	2	1	1	1	2	2	1	2	2	2	1	2	17	
	3	1	-	-	1	-	-	-	-	1	1	-	4	
	Tier Totals	4	2	2	5	4	2	3	5	5	4	4	40	
3. Generic Knowledge and Abilities						Cat 1		Cat 2		Cat 3		Cat 4		17
						5		5		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. 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 <math>\pm 1</math> from that specified in the table based on NRC revisions. The final exam must total 100 points.</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 SRO 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>														

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			02				Tech-Spec limits on rod operability	3.2/4.3	1
000003 Dropped Control Rod / 1		05					CRD power supplies & logic circuits	2.5/2.8	1
000005 Inoperable/Stuck Control Rod / 1	05					4.4	Calculation of minimum S/D margin Recognize abnormal ind for entry to EOP/AOP	3.3/4.1 4.0/4.3	2
000011 Large Break LOCA / 3				13			Safety injection components	4.1/4.2	1
W/E04 LOCA Outside Containment / 3	2						Procedures associated with LOCA outside containment	3.5/4.2	1
W/E01 & E02 Rediagnosis & SI Termination / 3	3						Ann & con indicating signals & remedial act assoc w/ SI termination	3.5/3.8	1
000015/17 RCP Malfunctions / 4				22	08		RCP seal failure/malfunction When to secure RCP on high brg temp	4.0/4.2 3.4/3.5	2
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4		2					Facilities heat removal system proper operation	3.6/3.9	1
000024 Emergency Boration / 1		03					Controllers and positioners	2.6/2.5	1
000026 Loss of Component Cooling Water / 8						3.2	Facility ALARA program	2.5/2.9	1
000029 Anticipated Transient w/o Scram / 1									
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4			06				Containment pressure and temperature considerations	3.4/3.9	1
CE/A11; W/E08 RCS Overcooling - PTS / 4	3						Ann & cond indicating signals & remedial actions associated w/ PTS	3.5/4.0	1
000051 Loss of Condenser Vacuum / 4									
000055 Station Blackout / 6				05			Battery when approaching fully discharged	3.3/3.6	1
000057 Loss of Vital AC Elec. Inst. Bus / 6			01				EOP actions for loss of vital AC instrument bus	4.1/4.4	1
000059 Accidental Liquid RadWaste Rel. / 9									
000062 Loss of Nuclear Service Water / 4				01	02		Nuclear service water temperature indications The cause of possible SWS loss	3.1/3.1 2.9/3.6	2
000067 Plant Fire On-site / 9			04				EOP actions for fire on site	3.3/4.1	1
000068 (BW/A06) Control Room Evac. / 8					09		Saturation margin	4.1/4.3	1
000069 (W/E14) Loss of CTMT Integrity / 5						2.24	Analyze affects of maintenance on LCO status	2.6/3.8	1
000074 (W/E06&E07) Inad. Core Cooling / 4				06			RCP	3.6/3.9	1
BW/E03 Inadequate Subcooling Margin / 4									
000076 High Reactor Coolant Activity / 9		01			02		Corrective actions required for high fission product activity in RCS Process radiation monitors	2.8/3.4 2.6/3.0	2
BW/A02&A03 Loss of NNI-X/Y / 7									
K/A Category Totals:	4	4	4	5	4	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		03					Reactor trip status panel	3.5/3.6	1
BW/A01 Plant Runback / 1									
BW/A04 Turbine Trip / 4									
000008 Pressurizer Vapor Space Accident / 3					12		PZR level indicators	3.4/3.7	1
000009 Small Break LOCA / 3					34	4.48	Conditions for throttling or stopping HPI Interpret control room indications to verify system status and operation	3.6/4.2 3.5/3.8	2
BW/E08; W/E03 LOCA Cooldown - Depress. / 4		1					Components & functions of control & safety systems	3.6/4.0	1
W/E11 Loss of Emergency Coolant Recirc. / 4									
000022 Loss of Reactor Coolant Makeup / 2				08			VCT level	3.4/3.3	1
000025 Loss of RHR System / 4			01				Shift to alternate flow path	3.1/3.4	1
000027 Pressurizer Pressure Control System Malfunction / 3									
000032 Loss of Source Range NI / 7				01			Manual restoration of power	3.1/3.4	1
000033 Loss of Intermediate Range NI / 7						1.12	Apply tech-specs for a system	2.9/4.0	1
000037 Steam Generator Tube Leak / 3					06		S/G Tube failure	4.3/4.5	1
000038 Steam Generator Tube Rupture / 3			06		01		When to isolate one or more S/G's EOP actions for RCS water inventory bal, S/G tube rupture, & plant SD	4.1/4.7 4.2/4.5	2
000054 (CE/E06) Loss of Main Feedwater / 4	01				04		Proper operation of AFW pumps and regulating valves MFW break depressurizes the S/G	4.2/4.3 4.1/4.3	2
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4									
000058 Loss of DC Power / 6									
000060 Accidental Gaseous Radwaste Rel. / 9					05		Auto safety actions as a result of high ARM	3.7/4.2	1
000061 ARM System Alarms / 7									
W/E16 High Containment Radiation / 9									
000065 Loss of Instrument Air / 8						4.11	Knowledge of abnormal conditions procedures	3.4/3.6	1
CE/E09 Functional Recovery									
K/A Category Point Totals:	1	2	2	2	6	3	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		02					Sensors and detectors	2.6/2.7	1
000036 (BW/A08) Fuel Handling Accident / 8					02		Occurrence of a fuel handling incident	3.4/4.1	1
000056 Loss of Off-site Power / 6	01						Principle of cooling by natural circulation	3.7/4.2	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	1			1		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					05			15	08			Loss of CCW or fan cooling Anticipation of criticality while adding + reac Interpretation of rod worth curves & use	3.6/4.2 3.9/4.0 3.5/3.9	3	
003 Reactor Coolant Pump	03			03								RCP seal system Adequate lubrication of the RCP	3.3/3.6 2.5/2.8	2	
004 Chemical and Volume Control			04									Effect on CVCS from loss/malf of RCPS	3.7/3.9	1	
013 Engineered Safety Features Actuation										02		Reset of ESFAS channels	4.3/4.4	1	
014 Rod Position Indication					01						1.7	Eval plt performance & make oper judgmnts Reason for diff between RPIS & step count	3.7/4.4 2.7/3.0	2	
015 Nuclear Instrumentation															
017 In-core Temperature Monitor											4.47	Ability to diagnose/recognize trends	3.4/3.7	1	
022 Containment Cooling							02					Containment pressure	3.6/3.8	1	
025 Ice Condenser															
026 Containment Spray	01											ECCS	4.2/4.2	1	
056 Condensate															
059 Main Feedwater				13								Feedwater fill for S/G upon loss of RCP's	2.9/2.9	1	
061 Auxiliary/Emergency Feedwater		02				01						AFW electric drive pumps Controllers and positioners	3.7/3.7 2.5/2.8	2	
063 DC Electrical Distribution								01				Grounds	2.5/3.2	1	
068 Liquid Radwaste								04				Failure of automatic isolation	3.3/3.3	1	
071 Waste Gas Disposal									02	13		Pressure reg sys for waste gas vent hdr Recovery from auto termination of gas release PRM alarm	2.8/2.8 3.0/3.1	2	
072 Area Radiation Monitoring															
K/A Category Point Totals:	2	1	1	2	2	1	1	3	2	2	2	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						02						Effect on RCS from loss/malf of RCP	3.6/3.8	1
006 Emergency Core Cooling					02							Relationship between Acc vol & press	2.8/2.9	1
010 Pressurizer Pressure Control									02			Monitor auto operation of PZR pressure	3.6/3.5	1
011 Pressurizer Level Control									03			Monitor auto oper of charging & letdwn	3.2/3.3	1
012 Reactor Protection							01					Trip setpoint adjustment	2.9/3.4	1
016 Non-nuclear Instrumentation										01		NNI channel select controls	2.9/2.8	1
027 Containment Iodine Removal														
028 Hydrogen Recombiner and Purge Control								02				LOCA cond and related concern over H2	3.5/3.9	1
029 Containment Purge											4.21	Parameters & logic used to assess status	3.7/4.3	1
033 Spent Fuel Pool Cooling														
034 Fuel Handling Equipment											1.11	Less than 1 hour tech-spec actions	3.0/3.8	1
035 Steam Generator					01		01					S/G wide & narrow range level Effect of secondary par on reactivity	3.6/3.8 3.4/3.9	2
039 Main and Reheat Steam														
055 Condenser Air Removal			01									Main condenser	2.5/2.7	1
062 AC Electrical Distribution		01										Major system loads	3.3/3.4	1
064 Emergency Diesel Generator														
073 Process Radiation Monitoring				01								Release termination when rad exceeds stpt	4.0/4.3	1
075 Circulating Water	01											SWS	2.5/2.5	1
079 Station Air														
086 Fire Protection				01								Adequate supply of water for FPS	3.1/3.7	1
103 Containment								03				Phase A and B isolation	3.5/3.8	1
K/A Category Point Totals:	1	1	1	2	2	1	2	2	2	1	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	13											Physical connection with SIS	3.3/3.5	1
007 Pressurizer Relief/Quench Tank														
008 Component Cooling Water				09								The stdby feature for the CCW pumps	2.7/2.9	1
041 Steam Dump/Turbine Bypass Control									02			RCS press, RCS temp, & reactor power	3.3/3.4	1
045 Main Turbine Generator														
076 Service Water														
078 Instrument Air										01		Pressure gages	3.1/3.1	1
K/A Category Point Totals:	1			1					1	1		Group Point Total:		4
Plant-Specific Priorities														
System / Topic		Recommended Replacement for...					Reason					Points		
Plant-Specific Priority Total: (limit 10)														



Facility: FARLEY		Date of Exam: 7/30/01	Exam Level: SRO	
Category	K/A #	Topic	Imp.	Pnts
Conduct of Operations	2.1.7	Eval plt performance and make operational judgements based on operating characteristics, rx behavior & instruments	3.7/4.4	1
	2.1.10	Conditions & limitations in the facility license	2.7/3.9	1
	2.1.12	Apply tech-spec for a system	2.9/4.0	1
	2.1.20	Ability to execute procedure steps	4.3/4.2	1
	2.1.32	Explain & apply all system limits & precautions	3.4/3.8	1
	Total			5
Equipment Control	2.2.11	Process for controlling temporary changes	2.5/3.4	1
	2.2.12	Knowledge of surveillance procedures	3.0/3.4	1
	2.2.13	Tagging & clearance procedures	3.6/3.8	1
	2.2.22	Limiting conditions for operation	3.4/4.1	1
	2.2.28	New & spent fuel movement procedures	2.6/3.5	1
	Total			5
Radiation Control	2.3.1	10CFR20 & related facility radiation control requirements	2.6/3.0	1
	2.3.4	Radiation exposure limits & contamination control, including permissible levels in excess of those authorized	2.5/3.1	1
	2.3.6	Requirements for reviewing & approving release permits	2.1/3.1	1
	2.3.9	Process for performing a containment purge	2.5/3.4	1
	Total			4
	Emergency Procedures/ Plan	2.4.1	EOP entry conditions & immediate action steps	4.3/4.6
2.4.6		Symptom based EOP mitigation strategies	3.1/4.0	1
2.4.21		Parameters & logic used to assess the status of safety functions	3.7/4.3	1
Total			3	
Tier 3 Point Total (SRO)			17	