Callaway 2002 SRO Examination Outline

Form ES-401-3

Facility: Callaw	ay	Da	n Leve	el: SRO									
Tier	Group				K//	A Cat	tegor	y Po	ints				Point
	·	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	Total
1.	1	5	4	3				4	3			5	24
Emergency & Abnormal	2	2	1	3				2	6			2	16
Plant Evolutions	3	0	0	0				1	0			2	3
	Tier Totals	7	5	6				7	9			9	43
2.	1	2	1	0	2	2	2	2	2	1	1	4	19
Plant Systems	2	1	1	2	1	0	1	1	4	2	2	2	17
	3	0	0	2	0	0	0	0	1	0	0	1	4
	Tier Totals	3	2	4	3	2	3	3	7	3	3	7	40
3. Generic	Knowledge and	Abilit	ies		Са	ıt 1	Ca	it 2	Ca	t 3	Са	t 4	
						5	4	1		3	5	5	17

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).

- The point total for each group and tier in the proposed outline must match that specified in the table. The final point total for each group and tier may deviate by ±1 from that specified in the table based on NRC revisions. The final exam must total 100 points.
- 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.
- 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 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.
- 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

ES-401

Callaway 2002 SRO Examination Outline

Form ES-401-3

table above.

ES-401 Callaway 2002 SRO Examination Outline Form ES- Emergency and Abnormal Plant Evolutions - Tier 1 / Group 1)1-3
E//	APE # / Name / Safetv Function	K1	K2	K3	A1	A2	G		K/A Topic(s)	lmp.	Q#
000001	Continuous Rod Withdrawal / 1			Х				AK3.02	Tech Spec Limits For Control Rods	4.3	S001
000003	Dropped Control Rod / 1	Х						AK1.11	Long Term Effect Of Dropped Rod	3.5	B017
000005	Inoperable / Stuck Control Rod / 1				Х			AA1.01	Inoperable Rod - Malfunctioning Coil Currents	3.4	B001
000011	Large Break LOCA / 3				Х			EA1.13	Manually Align ECCS Components (IPE/PRA)	4.2	B021
W/E04	LOCA Outside Containment / 3	X						EK1.2	Precaution During Valve Strokes In ECA-1.2	4.2	B022
W/E02	SI Termination / 3		Х					EK2.2	Primary Coolant Indication For SI Termination	3.9	B024
000015/17	RCP Malfunctions / 4						Х	2.1.32	RCP Starting Limitations	3.8	B002
W/E09&E10	Natural Circ. / 4	Х						EK1.3	Natural Circulation Indications (IPE/PRA)	3.6	B003
000024	Emergency Boration / 1						Х	2.4.4	OTO-ZZ-00003 Entry Conditions	4.3	B004
000026	Loss of Component Cooling Water / 8			X				AK3.03	Loss of CCW Pump - Operator Actions	4.2	B005
000029	Anticipated Transient w/o Scram / 1						Х	2.4.16	ATWS Coincident With SI	4.0	S002
000040 (W/E12)	Steam Line Rupture – Excessive Heat Transfer / 4	Х						AK1.06	Steam Line Break Outside CTMT	3.8	B007
W/E08	RCS Overcooling - PTS / 4				Х			EA1.3	RCS Post-Soak C/D Limits Following PTS	4.0	B008
000051	Loss of Condenser Vacuum / 4			X				AK3.01	Loss of Steam Dumps With Loss Of Vacuum	3.1	B009
000055	Station Blackout / 6	Х						EK1.01	Battery Discharge Rate (IPE/PRA)	3.7	B010
000057	Loss of Vital AC Elec. Inst. Bus / 6					Х		AA2.19	Auto Actions On Loss Of NN02	4.3	B011
000059	Accidental Liquid Radwaste Rel. / 9					Х		AA2.02	LRW Release Permit	3.9	S003
000062	Loss of Nuclear Service Water / 4						Х	2.2.25	ESW Tech Spec Bases	3.7	S004

ES-401	ES-401 Callaway 2002 SRO Examination Outline Form ES-401-3 Emergency and Abnormal Plant Evolutions - Tier 1 / Group 1											
	E/APE # / Name / Safety Function	K1	K2	КЗ	A1	A2	G		K/A Topic(s)	Imp.	Q#	
000067	067 Plant Fire On-site / 9 X AA1.08							AA1.08	Fire In NB01 Switchgear	3.7	B012	
000068	Control Room Evac. / 8		Х					AK2.02	Activating RPS From Outside The Control Room	3.9	B013	
000069 (W/E14)	Loss of CTMT Integrity / 5						Х	2.1.12	CTMT Integrity Tech Spec	4.0	S005	
			Х					EK2.1	Manual Actions On High CTMT Pressure	3.7	B014	
000074 (W/E06&	Inad. Core Cooling / 4 E07)		Х					EK2.2	RCP Requirements For Inadequat Core Cooling	e 4.1	B015	
000076 High Reactor Coolant Activity / 9 X AA2.02 High RCS Activity Sampling Requirements 3.4				B016								
K/A Category Point Totals:543435Group Point Total:2									24			

ES-401	ES-401 Callaway 2002 SRO Examination Outline Form ES-401-3 Emergency and Abnormal Plant Evolutions - Tier 1 / Group 2											
	E/APE # / Name / Safety Function	K1	K2	КЗ	A1	A2	G		K/A Topic(s)	Imp.	Q#	
000007	Reactor Trip – Stabilization – Recovery /1	Х						EK1.05	How Long For Source Ranges To Energize On Rx Trip	3.8	B018	
800000	Pressurizer Vapor Space Accident / 3		Х					AK2.02	Indication Of Stuck Open Pzr Safety	2.7	B019	
000009	Small Break LOCA / 3				Х			EA1.04	Indications Of Small LOCA In CVCS (IPE/PRA)	3.5	B020	
W/E03	LOCA Cooldown-Depress. / 4	Х						EK1.2	ES-1.2 RNO Actions	4.1	B023	
W/E11	Loss of Emergency Coolant Recirc / 4					Х		EA2.1	Transition To Loss Of Emergency Coolant Recirc (IPE/PRA)	4.2	S006	
000022	Loss of Reactor Coolant Makeup / 2			Х				AK3.02	Valve Closure In Charging Line	3.8	B025	
000025	Loss of RHR System / 4				Х			AA1.02	Loss Of RHR At Mid-Loop	3.9	B026	
000027	Pressurizer Pressure Control System Malfunction / 3					х		AA2.16	Pzr Pressure Instrument Fails Low	3.9	B006	
000032	Loss of Source Range NI / 7						Х	2.4.11	Loss Of Source Range Due To P-10	3.6	B027	
000033	Loss of Intermediate Range NI / 7					Х		AA2.02	Indication Of IR Channel Failure	3.6	B028	
000037	Steam Generator Tube Leak / 3						Х	2.4.11	Quantify S/G Tube Leak	3.6	B029	
000038	Steam Generator Tube Rupture / 3			X				EK3.06	Ruptured S/G Depressurization Methods (IPE/PRA)	4.5	B030	
000054	Loss of Main Feedwater / 4			Х				AK3.04	Immediate Actions For MFP Trip	4.6	B031	
000058	Loss of DC Power / 6					Х		AA2.03	Loss Of DC Power For Failed Flash	3.9	B032	
W/E16	High Containment Radiation / 9					Х		EA2.1	Response To High CTMT Radiation	3.3	S007	
000065	Loss Of Instrument Air / 8					Х		AA2.08	Failure Mode Of EFHV43/44	3.3	B034	
K/A Cate	gory Point Totals:	2	1	3	2	6	2	Group P	oint Total:		16	

ES-401	-401 Callaway 2002 SRO Examination Outline Form Emergency and Abnormal Plant Evolutions - Tier 1 / Group 3										
	E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G		K/A Topic(s)	Imp.	Q#
000028	Pressurizer Level Malfunction / 2				Х			AA1.02	Effect Of Pzr Level Channel Failure On RMCS	3.4	B033
000036	Fuel Handling Accident / 8						Х	2.2.25	Fuel Handling Tech Spec Bases	3.7	S008
000056	Loss Of Off-Site Power / 6						Х	2.4.21	CSF Status During Loss Of Off- Site Power	- 4.3	S009
K/A Cate	gory Point Totals:	0	0	0	1	0	2	Group Po	pint Total:	·	3

ES-4	01	C	alla F	way Plant	200: Sys	2 S terr	RO ns -	Exa Tie	ami r 2	inat / G	ion rou	Outline p 1	Form	ES-40	1-3
	E/APE # / Name / Safety Function	K1	K2	КЗ К	4 K	5 K	6 A1	A2	A3	A4	G		K/A Topic(s)	Imp.	Q#
001	Control Rod Drive				X							K5.04	Rod Insertion Limit / P/A Converter Malfunction	4.7	B035
003	Reactor Coolant Pump						Х					A1.07	Securing RCP At Power	3.4	B036
004	Chemical and Volume Control					Х						K6.13	Boration Control Malfunction	3.3	B037
013	Engineered Safety Features Actuation							Х				A2.01	ESFAS Response To LOCA	4.8	B038
014	Rod Position Indication							Х				A2.03	Multiple Dropped Rods	4.1	S010
015	Nuclear Instrumentation										Х	2.1.12	QPTR Tech Spec	4.0	S011
017	In-core Temperature Monitor)	<							K4.01	CET Input To Subcooling Monitor	3.7	B039
022	Containment Cooling		Х									K2.01	Containment Coolers Power Supply	3.1	B040
										Х		A4.01	CTMT Cooler Operation On SI	3.6	B041
026	Containment Spray								Х			A3.01	CTMT Spray Pump Response To LOCA	4.5	B053
056	Condensate	X										K1.03	MFW Temperature Response To LP Htr Isolation	2.6	B042
059	Main Feedwater	Х										K1.04	S/G Water Level Control	3.4	B043
							X					A1.07	MFP Speed Change Due To AEPT508 Failure	2.6	B044
061	Auxiliary/Emergency Feedwater				X	(K5.01	Relationship Between AFW Flow And RCS heat Transfer	3.9	B045
											Х	2.2.25	CST Tech Spec Bases	3.7	S012
063	DC Electrical Distribution										Х	2.2.22	125 VDC Tech Spec	4.1	S013
068	Liquid Radwaste					Х						K6.10	LRW Discharge With Inoperable Monitor	2.9	B046

ES-401	С	alla I	awa Plar	y 20 nt S)02 yste	SF em	ςΟ s -	Exa Tie	ami r 2	nat / G	tion Grou	Outline Form ES-4	01-3				
E/APE # / Name / Safety Function K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G K/A Topic(s) Imp. Q#												Q#					
071 Waste Gas Disposal				X								K4.04 Automatic Action On High 3.4 Radiation					
072 Area Radiation Monitoring											Х	2.2.22 Fuel Handling ARM Required 4.1 By FSAR	B048				
K/A Category Totals:	2	1	0	2	2	2	2	2	1	1	4	Group Point Total:	19				

ES-4	01	С	alla F	way Ylan	/ 20 t Sy)02 yste	SR ems	RO 5 - ⁻	Exa Tie	ami r 2	nat / G	tion Grou	Outline 1p 2	Form	ES-40)1-3
	E/APE # / Name / Safety Function	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G		K/A Topic(s)	Imp.	Q#
002	Reactor Coolant									Х			A3.03	Master Pzr Press Controller Setting	4.6	B049
006	Emergency Core Cooling										Х		A4.02	ECCS Valve Interlocks	3.8	B050
010	Pressurizer Pressure Control							Х					A1.08	Spray Nozzle ΔT Limits	3.3	B051
011	Pressurizer Level Control								Х				A2.03	Response To Pzr Level Malfunction	3.9	S014
012	Reactor Protection								Х				A2.01	Multiple Rx Prot Channel Failures	3.6	S015
016	Non-nuclear Instrumentation			Х									K3.03	Steam Dump Response To ABPT507 Failure	3.1	B052
029	Containment Purge								Х				A2.04	HP Sampling Requirements For Release Permit	3.2	S016
033	Spent Fuel Pool Cooling				Х								K4.05	SFP Dilution - Shutdown Margin	3.3	B054
034	Fuel Handling Equipment								Х				A2.02	Dropped Fuel Cask	3.9	S017
035	Steam Generator						Х						K6.01	Inadvertent Main Steam Line Isolation	3.6	B055
039	Main and Reheat Steam			Х									K3.04	MFW Pump Discharge Pressure During Transient	2.6	B056
062	AC Electrical Distribution		Х										K2.01	Loss Of Startup Transformer	3.4	B057
064	Emergency Diesel Generator									Х			A3.07	Load Sequencing During SI	3.7	B058
073	Process Radiation Monitoring	Х											K1.01	Response To CCW Rad Mon Alarm	3.9	B059
079	Station Air										Х		A4.01	Loss Of Instrument Air Pressure	2.7	B060
086	Fire Protection											Х	2.4.27	Actions Upon Discovery Of Fire	3.5	B061
103	Containment											Х	2.1.33	Loss Of CTMT Integrity	4.0	S018
K/A	Category Totals:	1	1	2	1	0	1	1	4	2	2	2	Group I	Point Total:		17

ES-401	Ca	alla P	way Plan	y 20 it Sy)02 yste	SF ems	ro I s - 7	Exa Tiei	ami r 2 .	nati / G	ion rou	Outline I o 3	orm ES-4	01-3
E/APE # / Name / Safety Function	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp	. Q#
005 Residual Heat Removal								Х				A2.02 RHR Overpressure Protection	on 3.7	S019
008 Component Cooling Water			Х									K3.02 Control Rod Response To C Dilution	CW 3.1	B062
076 Service Water											Х	2.1.12 Inoperable ESW Trains	4.0	S020
078 Instrument Air			Х									K3.02 RHR System Air Operated Valves	3.6	B063
K/A Category Point Totals:	0	0	2	0	0	0	0	1	0	0	1	Group Point Total:		4
				Pla	nt-	Spe	ecifi	ic F	Prio	ritie	es			
System / Topic	Re	eco	mm	neno	dec	l Re	epla	ace	me	nt f	or	Reason		Points
Plant-Specific Priority Total: (limit 10)	<u> </u>													

Callaway 2002 SRO Examination Outline Generic Knowledge and Abilities Outline (Tier 3)

Form ES-401-5

Facility: Cal	laway	Date of Exam: August 2002	Exam Lev	el: SRO
Category	K/A #	Торіс	Imp.	Q#
	2.1.1	License Candidate Requirements In Main CR	3.8	B064
	2.1.11	Minimum Temp For Criticality T/S	3.8	B065
Conduct of	2.1.18	RO Log Entries	3.0	B066
Operations	2.1.26	Confined Space Entry Requirements	2.6	S021
	2.1.32	Precautions And Limitations For Radwaste Supply	3.8	B067
	Total			5
	2.2.11	Continuous Use Procedure Adherence	3.4	B068
	2.2.13	Operation Of Equipment Under Local Control Tag	3.8	B069
Equipment	2.2.22	LCO For Refueling Water Storage Tank	4.1	B070
Control	2.2.33	Rod Bank Overlap	2.9	B071
	2.2.			
	Total			4
	2.3.1	Radiological Posting	3.0	B072
	2.3.10	CTMT Entry Requirements	3.3	S022
Radiation Control	2.3.11	Release Termination On Ruptured And Faulted S/G	3.2	B073
	2.3.			
	Total			3
	2.4.7	ECA-0.0 Mitigation Strategy	3.8	S023
	2.4.20	AFW Flow / S/G Level Requirements With Adverse Containment	4.0	B074
Emergency	2.4.22	CSF Implementation Requirements	4.0	S024
Procedures/ Plan	2.4.23	Prioritization Of Emergency Operating Procedures	3.8	B075
	2.4.29	Emergency Response Data System	4.0	S025
	2.4.			
	Total			5
Tier 3 Point T	otal SRO			17

Callaway 2002 RO Examination Outline

Form ES-401-4

Facility: Callaw	vay	Date of Exam: August 2002 Exam Level:											
Tier	Group				K//	A Cat	tegor	y Po	ints				Point
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	Total
1.	1	3	3	2				3	3			2	16
Emergency & Abnormal	2	4	2	3				3	2			3	17
Plant Evolutions	3	0	0	1				1	1			0	3
	Tier Totals	7	5	6				7	6			5	36
2.	1	2	1	1	4	3	3	2	3	2	1	1	23
Plant Systems	2	1	1	4	3	1	1	1	1	3	3	1	20
	3	0	1	2	0	0	0	1	1	1	1	1	8
	Tier Totals	3	3	7	7	4	4	4	5	6	5	3	51
3. Generic	Knowledge and	Abilit	ties		Ca	it 1	Ca	it 2	Ca	ıt 3	Ca	nt 4	
4 4 2 3										13			
 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). 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 													
3. Generic Note: 1. E e tv 2. T sj b	Tier Totals Knowledge and Insure that at lea ach tier (i.e., the wo). The point total for pecified in the tal y ±1 from that sp	Abilit st two "Tier each ble. T	3 ties o top Tota fied in	ics fr als" ir up ar nal p the ta	7 Ca com e n eac nd tie oint t able	4 <u>tt 1</u> 4 very h K/A r in th cotal f	4 Ca K/A A cate	4 tt 2 t categ egory opos ach g NRC	5 Ca gory y sha ed ou roup	are s are s Il not utline and sions	5 Ca ampl be le tier n . The	3 ed wi ess th nay d final	thin an ch tha eviate exan

- 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.
- 4. Systems/evolutions within each group are identified on the associated outline.
- 5. The shaded areas are not applicable to the category/tier.

must total 100 points.

- 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.
- 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

ES-401

Callaway 2002 RO Examination Outline

Form ES-401-4

basis of plant-specific priorities. Enter the tier totals for each category in the table above.

ES-401	Callav Emergency and	vay 2 Abno	200 orm	2 R al F	O E Plan	Exar t Ev	nina olut	ation Outli ions - Tie	r 1 / Group 1	m ES-40)1-4
E//	APE # / Name / Safety Function	K1	K2	КЗ	A1	A2	G		K/A Topic(s)	Imp.	Q#
000005	Inoperable / Stuck Control Rod / 1				Х			AA1.01	Inoperable Rod - Malfunctioning Coil Currents	3.6	B001
000015/17	RCP Malfunctions / 4						Х	2.1.32	RCP Starting Limitations	3.4	B002
W/E09&E10	Natural Circ. / 4	Х						EK1.3	Natural Circulation Indications (IPE/PRA)	3.3	B003
000024	Emergency Boration / 1						Х	2.4.4	OTO-ZZ-00003 Entry Conditions	4.0	B004
000026	Loss of Component Cooling Water / 8			X				AK3.03	Loss of CCW Pump - Operator Actions	4.0	B005
000027	Pressurizer Pressure Control System Malfunction / 3				X AA2.16 Pzr Pressure Instrument Fails Lov				3.6	B006	
000040 (W/E12)	Steam Line Rupture – Excessive Heat Transfer / 4	Х						AK1.06	Steam Line Break Outside CTMT	3.7	B007
W/E08	RCS Overcooling - PTS / 4				Х			EA1.3	RCS Post-Soak C/D Limits Following PTS	3.6	B008
000051	Loss of Condenser Vacuum / 4			Х				AK3.01	Loss of Steam Dumps With Loss Of Vacuum	2.8	B009
000055	Station Blackout / 6	Х						EK1.01	Battery Discharge Rate (IPE/PRA)	3.3	B010
000057	Loss of Vital AC Elec. Inst. Bus / 6					Х		AA2.19	Auto Actions On Loss Of NN02	4.0	B011
000067	Plant Fire On-site / 9				Х			AA1.08	Fire In NB01 Switchgear	3.4	B012
000068	00068 Control Room Evac. / 8 X AK2.02 Activating RPS From Outside 'Control Room				Activating RPS From Outside The Control Room	3.7	B013				
000069 Loss of CTMT Integrity / 5 (W/E14)			X					EK2.1	Manual Actions On High CTMT Pressure	3.4	B014
000074 (W/E06&E07	00074 Inad. Core Cooling / 4 W/E06&E07)							EK2.2	RCP Requirements For Inadequate Core Cooling	3.8	B015
000076	V/E06&E07))0076 High Reactor Coolant Activity / 9					Х		AA2.02	High RCS Activity Sampling Requirements	2.8	B016

K/A Category Point Totals: 3 3 2 3 3 2 Group Point Total: 16	K/A Category Point Totals:	3	3	2	3	3	2	Group Point Total:	16
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ES-401	Callaw Emergency and A	ay 2 Abno	200 5rm	2 R al F	0 E Plan	Exar t Ev	nina volut	ation Outli tions - Tie	ne Form r 1 / Group 2	ES-40)1-4	
	E/APE # / Name / Safety Function	K1	K2	КЗ	A1	A2	G		K/A Topic(s)	Imp.	Q#	
000003	Dropped Control Rod / 1	Х						AK1.11	Long Term Effect Of Dropped Rod	2.5	B017	
000007	Reactor Trip – Stabilization – Recovery /1	Х						EK1.05	How Long For Source Ranges To Energize On Rx Trip	3.3	B018	
000008	Pressurizer Vapor Space Accident / 3		Х					AK2.02	Indication Of Stuck Open Pzr Safety	2.7	B019	
000009	Small Break LOCA / 3				X			EA1.04	EA1.04 Indications Of Small LOCA In CVCS 3.7 (IPE/PRA)			
000011	Large Break LOCA / 3				Х			EA1.13	Manually Align ECCS Components (IPE/PRA)	4.1	B021	
W/E04	LOCA Outside Containment / 3	Х						EK1.2 Precaution During Valve Strokes In ECA-1.2 3.5				
W/E03	LOCA Cooldown/Depress. / 4	Х						EK1.2	K1.2 ES-1.2 RNO Actions		B023	
W/E02	SI Termination / 3		Х					EK2.2	Primary Coolant Indication For SI Termination	3.5	B024	
000022	Loss of Reactor Coolant Makeup / 2			Х				AK3.02	Valve Closure In Charging Line	3.5	B025	
000025	Loss of RHR System / 4				Х			AA1.02	Loss Of RHR At Mid-Loop	3.8	B026	
000029	Anticipated Transient w/o Scram / 1						Х	2.4.1	ATWS Immediate Actions	4.3	R001	
000032	Loss of Source Range NI / 7						Х	2.4.11	Loss Of Source Range Due To P-10	3.4	B027	
000033	Loss of Intermediate Range NI / 7					Х		AA2.02	Indication Of IR Channel Failure	3.3	B028	
000037	Steam Generator Tube Leak / 3						Х	2.4.11	Quantify S/G Tube Leak	3.4	B029	
000038	Steam Generator Tube Rupture / 3			Х				EK3.06 Ruptured S/G Depressurization 4.2 Methods (IPE/PRA)			B030	
000054	Loss of Main Feedwater / 4			Х				AK3.04 Immediate Actions For MFP Trip 4.4			B031	
000058	Loss of DC Power / 6					Х		AA2.03 Loss Of DC Power For Field Flash 3.5			B032	
K/A Cate	A Category Point Totals: 4 2 3 3 2 3 Group Point Total: 1											

ES-401	Callav Emergency and	ne Fo r 1 / Group 3	Form ES-401-4									
	E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G		K/A Topic(s)	Imp.	Q#	
000028	Pressurizer Level Malfunction / 2				Х			AA1.02	Effect Of Pzr Level Channel Failur On RMCS	e 3.4	B033	
000036	Fuel Handling Accident / 8			Х				AK3.03	Actions On Decreasing Refuel Poe	ol 3.7	R002	
000065	Loss Of Instrument Air / 8					Х		AA2.08	Failure Mode Of EFHV43/44	2.9	B034	
K/A Cate	gory Point Totals:	0	0	1	1	1	0	Group P	oint Total:		3	

ES-401 Callaway 2002 RO Examination Outline Form ES-401-4 Plant Systems - Tier 2 / Group 1)1-4						
	E/APE # / Name / Safety Function	K1	K2	КЗ	K4	K5	K6	A1	A2	A3	A4	G		K/A Topic(s)	Imp.	Q#
001	Control Rod Drive				Х								K4.23	Rod Motion Inhibit	3.4	R003
						Х							K5.04	Rod Insertion Limit / P/A Converter Malfunction	4.3	B035
003	Reactor Coolant Pump			Х									K3.04	Rx Trip Due To Loss Of RCP	3.9	R004
								Х					A1.07	Securing RCP At Power	3.4	B036
004	Chemical and Volume Control					Х							K5.20	Reactivity Effect Of Boration	3.6	R005
X K6.13 Boration Control Malfunction									3.1	B037						
013 Engineered Safety Features Actuation X A2.01 ESFAS Response To LOCA										4.6	B038					
										Х			A3.02	ESFAS Status Panel Indication	4.1	R006
015	Nuclear Instrumentation				Х								K4.07	Source Range Permissive	3.7	R007
									Х				A2.02	SR Discriminator Failure	3.1	R008
017	In-core Temperature Monitor				Х								K4.01	CET Input To Subcooling Monitor	3.4	B039
							Х						K6.01	Thermocouple Failures	2.7	R009
022	Containment Cooling		Х										K2.01	Containment Coolers Power Supply	3.0	B040
											Х		A4.01	CTMT Cooler Operation On SI	3.6	B041
056	Condensate	Х											K1.03	MFW Temperature Response To LP Htr Isolation	2.6	B042
									Х				A2.04	Trip Of All Condensate Pumps	2.6	R010
059	Main Feedwater	Х											K1.04	S/G Water Level Control	3.4	B043
X A1.07 MFP Speed Change Due To AEPT508 Failure									2.5	B044						

ES-401 Callaway 2002 RO Examination O Plant Systems - Tier 2 / Group		itline 1	e Form ES-401-		1-4										
E/APE # / Name / Safety Function	K1	K2	КЗ	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)		mp.	Q#
061 Auxiliary/Emergency Feedwater					Х							(5.01 Relationship Betwee Flow And RCS He	Relationship Between AFW3.6Flow And RCS Heat Transfer		B045
									Х			A3.01 AMSAC Actuation	Of AFW	4.2	R011
068 Liquid Radwaste						Х						K6.10 LRW Discharge W Inoperable Monitor	ith 2	2.5	B046
071 Waste Gas Disposal				Х								(4.04 Automatic Action C Radiation	n High 2	2.9	B047
072 Area Radiation Monitoring											X	2.2.22 Fuel Handling ARM By FSAR	1 Required 3	3.4	B048
K/A Category Totals: 2 1 1 4 3 3 2 3 2 1 1 Group Point Total:							23								

ES-4	01	C	Calla F	awa Plan	ay 2 ht Sy	002 yste	2 R ems	О Е s - ⁻	Exa Tie	mir r 2	natio / G	on (rou	Outline p 2	Form	n ES-40)1-4
	E/APE # / Name / Safety Function	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G		K/A Topic(s)	Imp.	Q#
002	Reactor Coolant									Х			A3.03	Master Pzr Press Controller Setting	4.4	B049
006	Emergency Core Cooling										Х		A4.02	ECCS Valve Interlocks	4.0	B050
010	Pressurizer Pressure Control							Х					A1.08	Spray Nozzle ΔT Limits	3.2	B051
011	Pressurizer Level Control								Х				A2.10	Pzr Level Channel Fails High	3.4	R012
012	Reactor Protection										Х		A4.06	Operation Of Rx Trip Breakers	4.3	R013
014	Rod Position Indication					Х							K5.01	DRPI Data Failure	2.7	R014
016	Non-nuclear Instrumentation			Х									K3.03	Steam Dump Response To ABPT507 Failure	3.0	B052
026	Containment Spray									Х			A3.01	CTMT Spray Pump Response To LOCA	4.3	B053
029	Containment Purge				Х								K4.02	Maintain Negative Pressure In CTMT	2.9	R015
033	Spent Fuel Pool Cooling				Х								K4.05	SFP Dilution - Shutdown Margin	3.1	B054
035	Steam Generator						Х						K6.01	Inadvertent Main Steam Line Isolation	3.2	B055
039	Main and Reheat Steam			Х									K3.04	MFW Pump Discharge Pressure During Transient	2.5	B056
055	Condenser Air Removal			Х									K3.01	Vacuum Pump Auto Starts	2.5	R016
062	AC Electrical Distribution		Х										K2.01	Loss Of Startup Transformer	3.3	B057
063	DC Electrical Distribution			Х									K3.02	Loss Of DC Control Power	3.5	R017
064	Emergency Diesel Generator									Х			A3.07	Load Sequencing During SI	3.6	B058

ES-4	ES-401		Calla F	awa Plar	ay 2 ht S	2002 yst	2 R em	0 I s -	Exa Tie	mir r 2	nati / G	on (irou	Putline Form ES-4	Form ES-401-4	
	E/APE # / Name / Safety Function	K1	K2	K	8 K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Q#	
073	Process Radiation Monitoring	X											K1.01 Response To CCW Rad Mon 3.6 Alarm	B059	
075	Circulating Water				X								K4.01 Cooling Tower Bypass Valve 2.5 Operation	R018	
079	079 Station Air										Х		A4.01 Loss Of Instrument Air Pressure 2.7	B060	
086	086 Fire Protection											Х	2.4.27 Actions Upon Discovery Of Fire 3.0	B061	
K/A (/A Category Totals:			4	3	1	1	1	1	3	3	1	Group Point Total:	20	

ES-4	01	С	alla P	awa 'lan	y 2 t S	2002 yste	2 R ems	О Е 3 - ⁻	Exa Tie	min r 2	atio / G	on (rou	Dutline p 3	Form E	S-40	1-4
	E/APE # / Name / Safety Function	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	-	K/A Topic(s)	lmp.	Q#
005	Residual Heat Removal							Х					A1.03	Isolating CCW To RHR Hx	2.5	R019
007	Pressurizer Relief/Quench Tank								Х				A2.05	Impact Of Pressure ↑ On PRT	3.2	R020
008	Component Cooling Water			Х									K3.02	Control Rod Response To CCW Dilution	2.9	B062
034	Fuel Handling Equipment											Х	2.2.30	RO Responsibility During Core Reload	3.5	R021
045	Main Turbine Generator										Х		A4.01	Main Turbine Chest Warming	3.1	R022
076	Service Water		Х										K2.08	ESW Valve Power Supplies (IPE/PRA)	3.1	R023
078 Instrument Air				Х									K3.02	RHR System Air Operated Valves	3.4	B063
103	Containment									Х			A3.01	Rad Monitor Response To CISA	3.9	R024
K/A (Category Point Totals:	0	1	2	0	0	0	1	1	1	1	1	Group	Point Total:		8
					Pla	ant-	Spe	ecifi	ic F	Prio	ritie	es				
	System / Topic	Re	eco	mm	nen	dec	l Re	epla	ace	me	nt f	or		Reason		Points
Plant	-Specific Priority Total: (limit 10)															

Callaway 2002 RO Examination Outline Generic Knowledge and Abilities Outline (Tier 3)

Form ES-401-5

Facility: Cal	laway	Date of Exam: August 2002	Exam Level:	RO
Category	K/A #	Торіс	Imp.	Q#
	2.1.1	License Candidate Requirements In Main CR	3.7	B064
	2.1.11	Minimum Temp For Criticality T/S	3.0	B065
Conduct of	2.1.18	RO Log Entries	2.9	B066
Operations	2.1.32	Precautions And Limitations For Radwaste Supply	3.4	B067
	2.1.			
	2.1.			
	Total			4
	2.2.11	Continuous Use Procedure Adherence	2.5	B068
	2.2.13	Operation Of Equipment Under Local Control Tag	3.6	B069
Equipment	2.2.22	LCO For Refueling Water Storage Tank	3.4	B070
Control	2.2.33	Rod Bank Overlap	2.5	B071
	2.2.			
	2.2.			
	Total			4
	2.3.1	Radiological Posting	2.6	B072
	2.3.11	Release Termination On Ruptured And Faulted S/G	2.7	B073
Radiation	2.3.			
Control	2.3.			
	2.3.			
	Total			2
	2.4.1	Reactor Trip Requirements 25%	4.3	R025
	2.4.20	AFW Flow / S/G Level Requirements With Adverse Containment	3.3	B074
Emergency	2.4.23	Prioritization Of Emergency Operating Procedures	2.8	B075
Procedures/	2.4.			
Plan	2.4.			
	Total			3
Tier 3 Point T	otal RO			13

ES-3	01	Administrative Topics	Callaway F Outline	Rev. 0, Feb. 27, 2002 Form ES-301-
Faci Exar	lity:C mination Level:F	allaway Da O O	ate of Examination: perating Test Number:	August 2002
	Administrative Topic/Subject Description	Describe method of e 1. ONE Administrati 2. TWO Administrati	evaluation: ve JPM, OR ive Questions	
A.1	Conduct Of Operations / Evaluate Plant Performance	Determine If Rod Ins G 2.1.7 (3	ertion Limit Has Been Ex 3.7) A1	ceeded RO/SRO
	Conduct Of Operations / Interpret Reference Material	Determine Dilution R G 2.1.25 (2	equirements 2.8) A2	RO/SRO
A.2	Equipment Control Refueling Process	Calculate RHR Pump G 2.2.27 (2	Run Time For Flood Up 2.6) A3	RO
A.3	Radiation Control / Stay Times	Calculate Stay Time G 2.3.10 (2	2.9) A4	RO
A.4	Emergency Procedures / Plan Knowledge Of	Knowledge Of Emerg G 2.4.29 (2	gency Plan Duties 2.6) A5.1	RO
	RERP	Knowledge Of Emerg G 2.4.43 (2	jency Communications 2.8) A5.2	RO
FAC	ILITY REPRESENTATI	VE:	DA	ATE:
CHIE	F EXAMINER:		DA	ATE:
NURI	EG-1021			Revision

	01	Administrative Ter	Call	away R	Rev. 0, Feb. 27, 2002		
E0-0	J I	Administrative Top			F0111 ES-301-1		
Faci Exai	lity: Ca mination Level: SF	allaway RO	_ Date of Examination _ Operating Test Num	: _ ıber: _	August 2002		
	Administrative Topic/Subject Description	Describe method 1. ONE Adminis 2. TWO Adminis	of evaluation: trative JPM, OR trative Questions				
A.1	Conduct Of Operations / Evaluate Plant Performance	Determine If Rod G 2.1.7	Insertion Limit Has Be (4.4)	een Exo A1	ceeded RO/SRO		
	Conduct Of Operations / Interpret Reference Material	Determine Dilutio G 2.1.25	n Requirements (3.1)	A2	RO/SRO		
A.2	Equipment Control / Surveillance Procedures	Determine Action G 2.2.12	s For Valve Stroke Te (3.4)	est A3	SRO		
A.3	Radiation Control / Exposure Limits	Reportability For G 2.3.4	Exceeding Exposure I (3.1)	∟imits A4	SRO		
A.4	Emergency Procedures / Plan RERP Notifications	Emergency Even G 2.4.41	t Classification (4.1)	A5	SRO		
FAC		<u> </u>					
CHIF		L		DATE:			
NURI	EG-1021		Revision 8				

Appendix D

Scenario Outline

Form ES-D-1

Callaway Plant Initial License Exam – August 2002	
	SCENARIO # ILE2002DS1
EXAMINERS:	APPLICANTS:
INITIAL CONDITIONS:	100% Reactor Power, 'B' RHR Pump OOS
TURNOVER:	See Turnover Sheet

Event No.	Event Type *	Event Description	KA Number
$\mathbf{A} \\ \mathbf{t} = 0$	N (RO, SRO)	Increase Letdown Flow From 75 GPM to 120 GPM	004A4.06 (3.6 / 3.1)
B	I	'B' S/G Level Channel 529 Fails High	016K3.12
t = 10	(BOP, SRO)		(3.4 / 3.6)
C	I	VCT Level Channel 149 Fails High	004A2.18
t = 20	(RO, SRO)		(3.1 / 3.1)
D	C	'B' Circulating Water Pump Trip	075A2.02
t = 25	(ALL)		(2.5 / 2.7)
E	R	Turbine Setback to 75% Power	045K4.12
t = 25	(RO)		(3.3 / 3.6)
F	M	Hotwell Instrumentation Leak - Loss of Feed	054AA2.01
t = 35	(ALL)		(4.3 / 4.4)
G	C	Turbine Automatic Trip Failure	007EA1.07
PRE	(BOP, SRO)		(4.3 / 4.3)
H	M	Large Break LOCA	011EK3.12
PRE	(ALL)		(4.4 / 4.6)
I	C	ESF Bus NB01 Lockout (IPE / PRA)	062A2.04
PRE	(ALL)		(3.1 / 3.4)

* (N) Normal (R) Reactivity (I) Instrument (C) Component (M) Major

FACILITY REPRESENTATIVE:

DATE: _____

DATE: _____ Revision 8, Supplement 1

Appendix D	Scenario Outline

Form ES-D-1

Appendix D

Scenario Outline

Form ES-D-1

	Callaway Plant Initial License Exam – August 2002
	SCENARIO # ILE2002DS2
EXAMINERS:	APPLICANTS:
INITIAL CONDITIONS:	30% Reactor Power, 'B' RHR Pump OOS
TURNOVER:	See Turnover Sheet

Event No.	Event Type *	Event Description	KA Number
$\mathbf{A} \\ \mathbf{t} = 0$	N (RO, SRO)	Swap Charging From NCP To CCP	004A4.08 (3.8 / 3.4)
B	I	Pressurizer Pressure Channel 455 Fails High	027AA2.15
t = 10	(RO, SRO)		(3.7 / 4.0)
C	I	Steam Flow Channel 542 Fails High On 'D' S/G	059A2.11
t = 20	(BOP, SRO)		(3.0 / 3.3)
D	C	Steam Generator Tube Leak On 'D' S/G	037AK3.05
t = 25	(ALL)		(3.7 / 4.0)
E	R	Plant Shutdown Due To S/G Tube Leak	004A4.01
t = 25	(RO)		(3.8 / 3.9)
F	M	Steam Generator Tube Rupture On 'D' S/G (IPE / PRA)	038EA2.02
t = 40	(ALL)		(4.5 / 4.8)
G	C	Failure Of 'D' FWIV To Automatically Close	013A4.01
PRE	(ALL)		(4.5 / 4.8)
H	M	S/G Safety Stuck Open On 'D' S/G	035A2.01
t = 42	(ALL)		(4.5 / 4.6)

* (N) Normal (R) Reactivity (I) Instrument (C) Component (M) Major

FACILITY REPRESENTATIVE:

DATE: _____

CHIEF EXAMINER:

DATE: _____

Appendix D

Scenario Outline

Form ES-D-1

Callaway Plant Initial License Exam – August 2002		
	SCENARIO # ILE2002DS B/U	
EXAMINERS:	APPLICANTS:	
INITIAL CONDITIONS:	80% Reactor Power, 'B' RHR Pump OOS	
TURNOVER:	See Turnover Sheet	

Event No.	Event Type *	Event Description	KA Number
$\mathbf{A} \\ \mathbf{t} = 0$	I (RO, SRO)	Pressurizer Level Channel 459 Fails Low	011A2.11 (3.4 / 3.6)
$\mathbf{B} \\ \mathbf{t} = 0$	C (RO, SRO)	Letdown Isolation Valve Fails Closed	004A2.07 (3.4 / 3.7)
C	N	Place Excess Letdown In Service	028AA1.05
N/A	(RO, SRO)		(2.8 / 2.9)
D	C	'A' RCP High Vibration	015AA1.23
t = 20	(ALL)		(3.1 / 3.2)
E	R	Plant Shutdown Due To RCP High Vibration	004A4.01
t = 20	(RO)		(3.8 / 3.9)
F	I	'A' S/G PORV Failure	041A4.06
t = 35	(BOP, SRO)		(2.9 / 3.1)
G	M	Loss of Off-Site Power and NB02	056AA2.44
t = 40	(ALL)		(4.3 / 4.5)
H	C	Auto Reactor Trip Failure	029EA1.12
PRE	(ALL)		(4.1 / 4.0)
I	C	TDAFP Fails To Auto Start	061A2.04
PRE	(ALL)		(3.4 / 3.8)
J	C	Loss of All AC due to NE01 Failure (IPE / PRA)	055EA2.02
PRE	(ALL)		(4.4 / 4.6)

* (N) Normal (R) Reactivity (I) Instrument (C) Component (M) Major

FACILITY REPRESENTATIVE:

DATE: _____

DATE: _____ Revision 8, Supplement 1

Appendix D	Scenario Outline

Form ES-D-1

Appendix D

Scenario Outline

Form ES-D-1

	Callaway Plant Initial License Exam – August 2002
	SCENARIO # ILE2002DS2
EXAMINERS:	APPLICANTS:
INITIAL CONDITIONS:	30% Reactor Power, 'B' RHR Pump OOS
TURNOVER:	See Turnover Sheet

Event No.	Event Type *	Event Description	KA Number
$\mathbf{A} \\ \mathbf{t} = 0$	N (RO, SRO)	Swap Charging From NCP To CCP	004A4.08 (3.8 / 3.4)
B	I	Pressurizer Pressure Channel 455 Fails High	027AA2.15
t = 10	(RO, SRO)		(3.7 / 4.0)
C	I	Steam Flow Channel 542 Fails High On 'D' S/G	059A2.11
t = 20	(BOP, SRO)		(3.0 / 3.3)
D	C	Steam Generator Tube Leak On 'D' S/G	037AK3.05
t = 25	(ALL)		(3.7 / 4.0)
E	R	Plant Shutdown Due To S/G Tube Leak	004A4.01
t = 25	(RO)		(3.8 / 3.9)
F	M	Steam Generator Tube Rupture On 'D' S/G (IPE / PRA)	038EA2.02
t = 40	(ALL)		(4.5 / 4.8)
G	C	Failure Of 'D' FWIV To Automatically Close	013A4.01
PRE	(ALL)		(4.5 / 4.8)
H	M	S/G Safety Stuck Open On 'D' S/G	035A2.01
t = 42	(ALL)		(4.5 / 4.6)

* (N) Normal (R) Reactivity (I) Instrument (C) Component (M) Major

FACILITY REPRESENTATIVE:

DATE: _____

CHIEF EXAMINER:

DATE: _____

Appendix D

Scenario Outline

Form ES-D-1

Callaway Plant Initial License Exam – August 2002		
	SCENARIO # ILE2002DS B/U	
EXAMINERS:	APPLICANTS:	
INITIAL CONDITIONS:	80% Reactor Power, 'B' RHR Pump OOS	
TURNOVER:	See Turnover Sheet	

Event No.	Event Type *	Event Description	KA Number
$\mathbf{A} \\ \mathbf{t} = 0$	I (RO, SRO)	Pressurizer Level Channel 459 Fails Low	011A2.11 (3.4 / 3.6)
$\mathbf{B} \\ \mathbf{t} = 0$	C (RO, SRO)	Letdown Isolation Valve Fails Closed	004A2.07 (3.4 / 3.7)
C	N	Place Excess Letdown In Service	028AA1.05
N/A	(RO, SRO)		(2.8 / 2.9)
D	C	'A' RCP High Vibration	015AA1.23
t = 20	(ALL)		(3.1 / 3.2)
E	R	Plant Shutdown Due To RCP High Vibration	004A4.01
t = 20	(RO)		(3.8 / 3.9)
F	I	'A' S/G PORV Failure	041A4.06
t = 35	(BOP, SRO)		(2.9 / 3.1)
G	M	Loss of Off-Site Power and NB02	056AA2.44
t = 40	(ALL)		(4.3 / 4.5)
H	C	Auto Reactor Trip Failure	029EA1.12
PRE	(ALL)		(4.1 / 4.0)
I	C	TDAFP Fails To Auto Start	061A2.04
PRE	(ALL)		(3.4 / 3.8)
J	C	Loss of All AC due to NE01 Failure (IPE / PRA)	055EA2.02
PRE	(ALL)		(4.4 / 4.6)

* (N) Normal (R) Reactivity (I) Instrument (C) Component (M) Major

FACILITY REPRESENTATIVE:

DATE: _____

DATE: _____ Revision 8, Supplement 1

Appendix D	Scenario Outline

Form ES-D-1

ES-301 Control Room Systems and Facility Walk-Through Test Outline Form ES-301-2				
Faci	Facility: Callaway Date of Examination: August 2002			
Exa	m Level: RO	Operating Tes	t No.:	
B.1	Control Room Systems			
	System / JPM Title		Type Code *	Safety Function
a.	Recover a Dropped Control Rod001A4.06(2.9 / 3.2)	S1	D, S	1
b.	Manually Operate MSIVs Which Fail to 013A4.01 (4.5 / 4.8)	Actuate C1	M, A, C, L	2
C.	Depressurize and Block Safety Injection 010A4.01 (3.7 / 3.5)	S4	D, S, L	3
d.	Perform 'B' RHR Pump Non-Surveillance 005A4.01 (3.6 / 3.4)	Run S2	N, S	4 (Pri)
e.	Main Turbine Mechanical O/S Trip Test045A2.17(2.7 / 2.9)	S3	D, S, A	4 (Sec)
f.	Respond to a Failed Power Range Instru 015A2.02 (3.1 / 3.5)	ument S5	D, S, L	7
g.	Restoration of CCW From Inadvertent C008A4.01(3.3 / 3.1)	S6	N, S, L	8
B/U	Start 'A' CTMT Cooler Fan 022A4.01 (3.6 / 3.6)	Backup	D, S, A	5
B.2	Facility Walk-Through			
a.	Emergency Boration Per FR-S.1 004A2.14 (3.8 / 3.9)	P1	D, A, R, P	1
b.	Locally Close Valves for CIS A 103A2.03 (3.5 / 3.8)	P2	D, R, P	5
C.	Locally Start NE01 Emergency DG (IPE 064A4.01 (4.0 / 4.3)	/ PRA) P3	D, A, P	6
* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)Iternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA, (P)Iant				
FAC	ILITY REPRESENTATIVE:		DATE:	
CHIE	EF EXAMINER:		DATE:	

NUREG-1021

Revision 8

Facility:CallawayDate of Examination:August 2002Exam Level:SRO (I)Operating Test No.:B.1Control Room SystemsSystem / JPM TitleType Code *Safety Functiona.Recover a Dropped Control Rod 001A4.06D, S1D. S1b.Manually Operate MSIVs Which Fail to Actuate 013A4.01M, A, C, L2c.Depressurize and Block Safety Injection 010A4.01D, S, L3d.Perform 'B' RHR Pump Non-Surveillance Run 005A4.01N, S4 (Prie.Main Turbine Mechanical O/S Trip Test 045A2.17D, S, L7g.Restoration of CCW From Inadvertent CIS B 008A4.01N, S, L8B/U Start 'A' CTMT Cooler Fan 022A4.01G. 6 / 3.6)BackupD, S, A5B.2Facility Walk-ThroughA.D, R, P1a.Emergency Boration Per FR-S.1 004A2.14D, R, P15b.Locally Close Valves for CIS AD, R, P55	ES-301 Control Room Systems and Facility Walk-Through Test Outline Form ES-301-2					
Exam Level:SRO (I)Operating Test No.:B.1Control Room SystemsSystem / JPM TitleType Code *System / JPM TitleType Code *a. Recover a Dropped Control Rod 001A4.06D, S1D, Sb. Manually Operate MSIVs Which Fail to Actuate 013A4.01M, A, C, L2c. Depressurize and Block Safety Injection 010A4.01D, S, L3d. Perform 'B' RHR Pump Non-Surveillance Run 005A4.01N, S4005A4.01(3.6 / 3.4)52D, S, A6Main Turbine Mechanical O/S Trip Test 045A2.17D, S, A79. Restoration of CCW From Inadvertent CIS B 008A4.01N, S, L8/U8/UStart 'A' CTMT Cooler Fan 022A4.01D, S, A9. Facility Walk-Througha. Emergency Boration Per FR-S.1 004A2.14D, A, R, P1b. Locally Close Valves for CIS ADDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD	Faci	acility: Callaway Date of Examination: August 2002				st 2002
B.1 Control Room Systems System / JPM Title Type Code * Safety Function a. Recover a Dropped Control Rod 001A4.06 D, S 1 b. Manually Operate MSIVs Which Fail to Actuate 013A4.01 D, S 1 b. Manually Operate MSIVs Which Fail to Actuate 013A4.01 M, A, C, L 2 c. Depressurize and Block Safety Injection 010A4.01 D, S, L 3 d. Perform 'B' RHR Pump Non-Surveillance Run 005A4.01 N, S 4 (Pri e. Main Turbine Mechanical O/S Trip Test 045A2.17 D, S, A 4 (See 045A2.17 D, S, L 7 g. Respond to a Failed Power Range Instrument 015A2.02 G. 1 / 3.5) S5 D, S, L 7 g. Restoration of CCW From Inadvertent CIS B 008A4.01 N, S, L 8 8 B/U Start 'A' CTMT Cooler Fan 022A4.01 D, S, A 5 5 B.2 Facility Walk-Through I D, A, R, P 1 a. Emergency Boration Per FR-S.1 004A2.14 D, A, R, P 1 b. Locally Close Valves for CIS A D, R, P 5	Exa	m Level:SRO (I)		Operating Test No.:		
System / JPM TitleType Code *Safety Functioa. Recover a Dropped Control Rod 001A4.06D, S1b. Manually Operate MSIVs Which Fail to Actuate 013A4.01M, A, C, L2c. Depressurize and Block Safety Injection 010A4.01D, S, L3d. Perform 'B' RHR Pump Non-Surveillance Run 005A4.01N, S4 (Prie. Main Turbine Mechanical O/S Trip Test 045A2.17D, S, A4 (Serf. Respond to a Failed Power Range Instrument 008A4.01D, S, L7g. Restoration of CCW From Inadvertent CIS B 008A4.01N, S, L8B/U Start 'A' CTMT Cooler Fan 022A4.01D, S, A5B.2Facility Walk-ThroughBackupD, A, R, P1b. Locally Close Valves for CIS AD, R, P55	B.1	Control Room Sys	tems			
a.Recover a Dropped Control Rod 001A4.06D, S1b.Manually Operate MSIVs Which Fail to Actuate 013A4.01M, A, C, L2c.Depressurize and Block Safety Injection 010A4.01D, S, L3d.Perform 'B' RHR Pump Non-Surveillance Run 005A4.01D, S, L3d.Perform 'B' RHR Pump Non-Surveillance Run 005A4.01N, S4 (Prie.Main Turbine Mechanical O/S Trip Test 045A2.17D, S, A4 (Seaf.Respond to a Failed Power Range Instrument 015A2.02D, S, L7g.Restoration of CCW From Inadvertent CIS B 008A4.01N, S, L8B/UStart 'A' CTMT Cooler Fan 022A4.01D, S, A5B.2Facility Walk-ThroughD, S, A5a.Emergency Boration Per FR-S.1 		Sys	tem / JPM Title		Type Code *	Safety Function
b. Manually Operate MSIVs Which Fail to Actuate 013A4.01 (4.5 / 4.8) C1M, A, C, L2c. Depressurize and Block Safety Injection 010A4.01 (3.7 / 3.5) S4D, S, L3d. Perform 'B' RHR Pump Non-Surveillance Run 005A4.01 (3.6 / 3.4) S2N, S4 (Prie. Main Turbine Mechanical O/S Trip Test 045A2.17 (2.7 / 2.9) S3D, S, A4 (Serf. Respond to a Failed Power Range Instrument 015A2.02 (3.1 / 3.5) S5D, S, L7g. Restoration of CCW From Inadvertent CIS B 008A4.01 (3.6 / 3.6) BackupN, S, L8B/U Start 'A' CTMT Cooler Fan 	a.	Recover a Dropped 001A4.06	Control Rod (2.9 / 3.2)	S1	D, S	1
c.Depressurize and Block Safety Injection 010A4.01D, S, L3d.Perform 'B' RHR Pump Non-Surveillance Run 005A4.01N, S4 (Prie.Main Turbine Mechanical O/S Trip Test 045A2.17D, S, A4 (Serf.Respond to a Failed Power Range Instrument 	b.	Manually Operate M 013A4.01	SIVs Which Fail to (4.5 / 4.8)	Actuate C1	M, A, C, L	2
d. Perform 'B' RHR Pump Non-Surveillance Run 005A4.01N, S4 (Prie. Main Turbine Mechanical O/S Trip Test 045A2.17D, S, A4 (Serf. Respond to a Failed Power Range Instrument 015A2.02D, S, L7g. Restoration of CCW From Inadvertent CIS B 008A4.01N, S, L8B/U Start 'A' CTMT Cooler Fan 022A4.01D, S, A5B.2Facility Walk-ThroughD, S, A5a. Emergency Boration Per FR-S.1 004A2.14D, A, R, P1b. Locally Close Valves for CIS AD, R, P5	C.	Depressurize and B 010A4.01	lock Safety Injection (3.7 / 3.5)	S4	D, S, L	3
e. Main Turbine Mechanical O/S Trip Test 045A2.17D, S, A4 (Secf. Respond to a Failed Power Range Instrument 015A2.02D, S, L7g. Restoration of CCW From Inadvertent CIS B 008A4.01N, S, L8B/U Start 'A' CTMT Cooler Fan 022A4.01D, S, A5B.2 Facility Walk-ThroughBackupD, S, A5a. Emergency Boration Per FR-S.1 004A2.14D, A, R, P1b. Locally Close Valves for CIS AD, R, P5	d.	Perform 'B' RHR Pu 005A4.01	mp Non-Surveillance (3.6 / 3.4)	e Run S2	N, S	4 (Pri)
f.Respond to a Failed Power Range Instrument 015A2.02D, S, L7g.Restoration of CCW From Inadvertent CIS B 008A4.01N, S, L8B/U Start 'A' CTMT Cooler Fan 022A4.01D, S, A5B.2Facility Walk-ThroughD, S, A5a.Emergency Boration Per FR-S.1 004A2.14D, A, R, P1b.Locally Close Valves for CIS AD, B, P5	e.	Main Turbine Mecha 045A2.17	anical O/S Trip Test (2.7 / 2.9)	S3	D, S, A	4 (Sec)
g.Restoration of CCW From Inadvertent CIS B 008A4.01N, S, L8B/UStart 'A' CTMT Cooler Fan 022A4.01D, S, A5B.2Facility Walk-ThroughFacility Walk-ThroughD, A, R, P1a.Emergency Boration Per FR-S.1 004A2.14D, A, R, P1b.Locally Close Valves for CIS AD, R, P5	f.	Respond to a Failed 015A2.02	Power Range Instru (3.1 / 3.5)	ument S5	D, S, L	7
B/UStart 'A' CTMT Cooler Fan 022A4.01D, S, ADB.2Facility Walk-Througha.Emergency Boration Per FR-S.1 004A2.14D, A, R, P1b.Locally Close Valves for CIS AD, R, P5	g.	Restoration of CCW 008A4.01	/ From Inadvertent ((3.3 / 3.1)	CIS B S6	N, S, L	8
B.2 Facility Walk-Through a. Emergency Boration Per FR-S.1 004A2.14 D, A, R, P 1 b. Locally Close Valves for CIS A D, R, P 5	B/U	Start 'A' CTMT Cool 022A4.01	ler Fan (3.6 / 3.6)	Backup	D, S, A	5
a. Emergency Boration Per FR-S.1 004A2.14D, A, R, P1b. Locally Close Valves for CIS AD, R, P5	B.2	Facility Walk-Thro	ugh			
b. Locally Close Valves for CIS A D. R. P. 5	a.	Emergency Boration 004A2.14) Per FR-S.1 (3.8 / 3.9)	P1	D, A, R, P	1
103A2.03 (3.5 / 3.8) P2	b.	Locally Close Valves 103A2.03	s for CIS A (3.5 / 3.8)	P2	D, R, P	5
c. Locally Start NE01 Emergency DG (IPE / PRA) 064A4.01 D, A, P 6	C.	Locally Start NE01 I 064A4.01	Emergency DG (IPE (4.0 / 4.3)	E / PRA) P3	D, A, P	6
 * Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)Iternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA, (P)Iant 						
FACILITY REPRESENTATIVE: DATE:	FAC	ILITY REPRESENTATI	 VE:		DATE:	
CHIEF EXAMINER: DATE:	CHIE	F EXAMINER:			DATE:	

ES-301 Control Room Systems and Facility Walk-Through Test Outline Form ES-301-2				
acility: Callaway Date of Examination: August 2002				
Exam Level: SRO (U)	n Level: SRO (U) Operating Test No.:			
B.1 Control Room Systems				
System / JPM Title	9	Type Code *	Safety Function	
a. Manually Operate MSIVs Which Fail 013A4.01 (4.5 / 4.8)	l to Actuate C1	M, A, C, L	2	
b. Perform 'B' RHR Pump Non-Surveilla 005A4.01 (3.6 / 3.4)	ance Run S2	N, S	4 (Pri)	
c. Restoration of CCW From Inadverte 008A4.01 (3.3 / 3.1)	ent CIS B S6	N, S, L	8	
d.				
e.				
f.				
g.				
B/U Start 'A' CTMT Cooler Fan 022A4.01 (3. 6 / 3.6)	Backup	D, S, A	5	
B.2 Facility Walk-Through				
a. Emergency Boration Per FR-S.1 004A2.14 (3.8 / 3.9)	P1	D, A, R, P	1	
b. Locally Start NE01 Emergency DG (064A4.01 (4.0 / 4.3)	(IPE / PRA) P3	D, A, P	6	
С.				
* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)Iternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA, (P)Iant				
FACILITY REPRESENTATIVE:		DATE:		
CHIEF EXAMINER:		DATE:		
NUREG-1021		Rev	ision 8	