Facility Name:	Peach Bottom	128	.3	C)ate	of E	Exan	n: Fe	ebru	arv i	7, 20	005						•
									_	_	Point				S	RO-0	nly Po	oints
Tier	Group	К 1	К 2	К 3	К 4	К 5	K	A 1	A 2	A 3	Α	G	Total	A	2	T	G*	Tot
1. Emergency &	1	2	4	3				4	4			3	20		4		3	7
Abnormal Plant	2	1	1	1		N/A	•	1	1	N	/A	2	7		2	 	1	3
Evolutions	Tier Totals	3	5	5 4 5 5 5 27 6 4 2 3 3 2 3 2 2 3 2 26 4 1											10			
2. Plant	1	2		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$											5			
Systems	Tier Totals	3	3 4 3 4 3 3 5 3 38 6 2										8					
3. Generic K	nowledge and	Ab	ilitie	ities 1 2 3 4 10 7												-		
	Categories	-												7				
	final point tota	al fo	r each group and tier in the proposed outline must match that specified in the table. T r each group and tier may deviate by ±1 from that specified in the table based on NR al RO exam must total 75 points and the SRO-only exam must total 25 points. Ins within each group are identified on the associated outline; systems or evolutions the facility should be deleted and justified; operationally important, site-specific system ded on the outline should be added. Refer to ES-401, Attachment 2, for guidance mination of inappropriate K/A statements.											ecified	t in the	e table	e base	d on NF
3. 4.	final point tota revisions. The Systems/evol do not apply a that are not in regarding the Select topics	al fo e fin lutio at th nclue e elin fron	r ea al R ns v le fa ded nina n as	ch g O e vithi cility on t tion	rou; xam / sh / sh / he c of ii ny s	p an i mu ich g ould outlir napp syste	id tie st to proup be o ne sl prop	er ma otal 7 p and dele houk riate and	ay d 75 p ide ted d be K/A evo	evia oints entifi and add sta lutio	ite by s and justi ded. item ins a	y ±1 d the on th ified; Refe ents is po	from that sp e SRO-only e e associated ; operationall er to ES-401 ossible; samp	ecified xam n outlin y impo , Atta	t in the nust to e; sys ortant, chmei	e table otal 25 stems , site-s nt 2, fo	e base 5 point or evo specific or guio	ed on NF s. blutions t c systen lance
3. 4. 5.	final point tota revisions. The Systems/evol do not apply a that are not in regarding the	al fo e fin lutio at th nclue elin from sele nt-sp	r ea al R ns v ie fa ded nina n as ectin	ch g O e vithin cility on t tion mai g a fic p	rou xam n ea y shi he c of ii ny s secu	p an i mu ich g ould outlir napp syste ond ty, o	id tie st to proup be o ne sl prop ems topio nly t	er ma otal 7 p and dele houk riate and c for hose	ay d 75 pe ted a d be K/A evo any e K//	evia oints entifi and add sta lutio v sys As h	ite by s and justi ded. item ons a stem avin	y ±1 d the on th ified; Refe ents is po or e or e g ar	from that sp sRO-only e e associated operational er to ES-401 sossible; samp evolution.	ecified xam r outlin y impo , Atta le eve rating	t in the nust to e; sys ortant, chmei ery sys	e table otal 25 stems , site-s nt 2, fo stem o of 2.5	e base 5 point or evo pecific or guid or guid or evol	d on NF s. olutions t c system lance ution in
3. 4. 5. 6.	final point tota revisions. The Systems/evol do not apply a that are not in regarding the Select topics group before Absent a plan selected. Usa Select SRO to	al fo e fin lutio at th cluce e lin from sele nt-sp e the opic	r ea al R ns v ie fa ded nina n as actin becif e R(s fo	ch g O e vithi cility on t tion g a fic pi O an r Tie	rou xam y shi he c of ii ny s secu riorit nd S	p an i mu ould outlir napp syste ond ty, o RO	id tie st to be ne sl propiems topic nly t ratin d 2 fi	er ma bal 7 p and dele hould riate and c for hose igs for	ay d 75 p ted d be K/A evo any e K// or th	evia oints and and add sta lutio v sys As h ne R shad	ite by s and justi ded. item ons a stem avin O ar ded	y ±1 d the ified; Refe ents is po or e ig ar nd S syst	from that sp sRO-only e e associated ; operationall er to ES-401 ossible; samp evolution. n importance iRO-only port ems and K/A	ecified xam n outlin y impo , Atta le eve rating ions, i , categ	t in the nust to e; sys ortant, chmer ery sys (IR) c respect gories.	e table otal 25 stems , site-s nt 2, fo stem c stem c of 2.5	e base 5 point or evo pecific or guid or evol or high	d on NF s. blutions f c system lance ution in ner shall
3. 4. 5. 6. 7.*	final point tota revisions. The Systems/evol do not apply a that are not in regarding the Select topics group before Absent a plan selected. Us Select SRO to The generic (must be relev	al fo e fin lutio at th nclude e elin from sele nt-sp e th opic (G) I	r ea al R ns v le fa ded nina n as ectin pecifi e R(s fo (/As to th	ch g O e vithiu cility on t tion ma g a fic pu D an r Tie i in 1 ne a	rou; xam y shi he c of ii ny s secu riorit ad S ers 1 fiers pplik	p an n mu nch g ould putlir napp syste ond ty, o RO l and s 1 a cable	d tie st to group be a brop ems : topic my t ratin d 2 fi and 2 e ev	er ma btal 7 p and dele hould riate and c for hose ggs fi rom 2 sha oluti	ay d 75 pc ted a d be K/A evo any e K// for th the all bo on c	evia oints entifi and add sadd sta lutio y sys As h ne R shad shad shad s se se or sy	ite by s and justi ded. item ons a stem avin O ar ded ilector sten	y ±1 d the on th fied; Refe ents as por e or e ag ar and S syst syst n.	from that sp sRO-only e e associated operationaliter to ES-401, sossible; samp evolution. n importance RO-only port arms and K/A om Section 2	ecified xam r outlin y impo , Atta le eve rating ions, i categ ? of the	t in the nust to e; sys ortant, chmei ery sys (IR) c respec gories. e K/A	e table otal 25 stems , site-s nt 2, fo stem c of 2.5 ctively Catak	e base 5 point or evo pecific or guid or evol or high og, but	d on NF s. olutions f c system lance ution in her shall t the top
3. 4. 5. 6. 7.* 8.	final point tota revisions. The Systems/evol do not apply a that are not in regarding the Select topics group before Absent a plan selected. Us Select SRO to The generic (al fo e fin lutio at th ncluce elin from sele nt-sp e th copic (G) I vant ing for th	r ea al R ns v le fa ded nina n as ectin becifi e R(x) s fo (x) As to the page he a	ch g O e vithin cility on t tion g a fic pr D an r Tie i n T ie es, e pplie	rou; xam n ea y shi he c of ii ny s secutionid d S ers 1 fiers pplik ente cabl	p an n mu nch g ould putlir napp syste ond ty, o RO l and s 1 a cable r the le lic	d tie st to group be a topic nly t ratin d 2 fi and 2 fi and 2 k/A cense	er ma p and dele houk riate and c for hose gs fi rom 2 sha oluti \ nur e lev	ay d 75 pe e ide ted : d bee K/A evo any e K/A the all be on c mbe vel, a	evia oints entifi and a add a sta lutio v sys As h le R sha e se or sy rs, a and 1	ite by ied o justi ded. item ons a stem avin O ar ded ilecter sten a brie the j	y ±1 d the on th fied; Refe ents is poo or e ing ar syst ed fn n. ef de pool	from that sp e SRO-only e e associated ; operationall er to ES-401 ossible; samp evolution. n importance RO-only port ems and K/A om Section 2 escription of e t totals (#) for	ecified xam r outlin y impo , Atta le eve rating ions, i categ ? of the each to reach	t in the nust to he; sys ortant, chmei ery sys (IR) c respec gories e K/A opic, to syste	e table otal 25 stems , site-s nt 2, fo stem c of 2.5 ctively Catak he top	e base 5 point or evo pecific or evol or high or high y or high y or high or high or high or high or high or high or high or high or evol	d on NF s. blutions f c system lance ution in her shall t the top portanc gory. En
3. 4. 5. 6. 7.* 8. 9.	final point tota revisions. The Systems/evol do not apply a that are not in regarding the Select topics group before Absent a plar selected. Us Select SRO to The generic (must be relev On the follow ratings (IRs) for the group and exams. For Tier 3, se and point tota	al fo e fin lutio at th ncluu e elin fron sele opic (G) I vant ing for the elect elect	r ea al R ns v le fa ded nina n as ctin be ctin be ctin cont to tin be a c(As to the page he a r tot topi () o ()	ch g C e vithiu cility on t tion mais g a fic pi C an r Tie s, e sppli als f cs fi n Fo	rou; xam n ea y she he c of ii ny s securiorii ad S ers 1 fiers pplik enter cabl	p an n mu ould gouldir napp syste ond ty, o RO I and s 1 a cable r the le lic cach Sec ES-4	d tie st to group be (ne si prop ems : topic nly t ratin d 2 fi end 2 e ev e k/A enso cate cate	er ma otal 7 p and dele houk riate and c for hose ogs fi rom 2 sha oluti k nur e lev gon 2 of 3. Li	ay d 75 p e ide ted : d be e K/A evo : any e K/A or th the all b on c mbe yel, a y in f the	evia oints entifi and sta lutio v sys As h lutio v sys As h e se or sy rs, a and the (te bi s and justi ded. item ons a stem avin O ar ded tecto sten a brid table (cat	y ±1 d the on th fied; Refi ents s por or e og ar syst ed fm n. ef de point e abo alog ectio	from that sp e SRO-only e e associated ; operationall er to ES-401,	ecified xam r outlin y impo , Atta le eve rating ions, i cate <u>c</u> of the each to each to each to each to licate	t in the nust to e; sys ortant, chmei ery sys (IR) c respec gories e K/A pages a numi e linke	e table otal 25 stems , site-s nt 2, fo stem c of 2.5 ctively Catak he top m and s for F bers, o ed to 1	e base 5 point or evo pecific or guid or evol or high og, but bics' in dics' in dics' in dicsci to and cate to and	d on NF s. olutions f c system lance ution in her shall t the top portance gory. En J SRO-o potions, II & 55.43.
3. 4. 5. 6. 7.* 8. 9.	final point tota revisions. The Systems/evol do not apply a that are not in regarding the Select topics group before Absent a plar selected. Us Select SRO to The generic (must be relev On the follow ratings (IRs) for the group and exams. For Tier 3, se and point tota	al fo e fin lutio at the cluce elin fron sele nt-sp e the copic i vant for the elect i elect i elin for the cluce i i for the cluce i i for the cluce i i for the cluce i i for the cluce i for the cluce i for the cluce i for the cluce i fo	r ea al R ns v le fa ded nina n as ctin a e R c x S fo s fo c x S fo s fo to pi a a r to t to pi a a s c tin s c tin s c tin s c tin s c tin s c tin a s c tin s c tin a s to t tin a s c tin a s c tin a s c tin a s c tin a s c tin a s tin a s tin a s tin s t tin tin s tin s tin s tin s tin s tin s tin s tin s tin s tin s tin s tin s t t t t t t t t t t t t t t t t t t	ch g co e vithiu cility on t tion t g a fic pi co an r Tie an als f ics fi ics fi co s fi co s fi	rou; xam n ea y shi he c of ii ny s secution fiers secution fiers spike antei cabil cor e rom I G z	p an n mu ould gouldir napp syste ond ty, oo RO I and s 1 ac cable r the lic cable r the lic cable r the ES-4	d tie st to group be (ne sl prop ems : topic nly t ratin d 2 fi nd 2 e ev e K/A ense cate	er ma tal 7 p and dele houk riate and c for hose ogs fi rom 2 sha oluti 1 nur e lev 2 of 3. Li 	ay d 75 p e ide ted : d be e K/A evo any e K/A or th the all b on c mbe yel, a y in f the	evia oints entifi and sta lutio x ss As h e se v ss and the f K/AS SRC	the bill s and justi ded. justi ded. termina a brie the p table table (a brie table (a cat	y ± 1 d the on the filed; Refices so pro- end S syst end from the so pro- end S syst aloge ection \Rightarrow aloge \Rightarrow 2	from that speed SRO-only end SRO-only end SRO-only end end sociated constrained by the second state of th	ecified xam r outlin y impo , Atta le eve rating ions, i cate cof the each to each to each to each to each to dicate	t in the nust to e; sys ortant, chmei ery sys (IR) c respec gories e K/A pages a numi e linke	e table otal 25 stems , site-s nt 2, fo stem c of 2.5 ctively Catak he top m and s for F bers, o ed to 1	e base 5 point or evo ipecific or guid or evol or high og, but bics' in d cates tO and descrip 0 CFF	d on NF s. olutions f c system lance ution in her shall t the top hportanc gory. En d SRO-o otions, If SRO-o

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ES-401 Frr	herae	ncv a	nd ∆⊧				ation Outline volutions - Tier 1/Group 1 (RO)	Form I	ES-40
En	T	T		_			voluoons - her horoup 1 (KO)	· · · · · · · · · · · · · · · · · · ·	
E/APE # / Name / Safety Function	К 1	К 2	к 3	A 1	.A .2	G	K/A Topic(s)	IR	#
295001 Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4	0 2						Power/flow distribution	3.3	1
295003 Partial or Complete Loss of AC / 6					0 -11		Cause of partial or complete loss of A.C. power	3.4	1
295004 Partial or Total Loss of DC Pwr / 6			0 1				Load shedding: Plant-Specific	2.6	1
295005 Main Turbine Generator Trip / 3		0 7					Reactor pressure control	3.6	1
295006 SCRAM / 1						04. (4	abnormal operating procedures.	4	1
295016 Control Room Abandonment / 7					12.	ない語	Reactor water level	4.2	1
295018 Partial or Total Loss of CCW / 8			0 3				Securing individual components (prevent equipment damage)	3.1	1
295019 Partial or Total Loss of Inst. Air / 8				0 2			Instrument air system valves: Plant-Specific	3.3	1
295021 Loss of Shutdown Cooling / 4							Reactor water temperature	3.6	1
295023 Refueling Acc / 8		0 3				教業	Radiation monitoring equipment	3.4	1
295024 High Drywell Pressure / 5		1 1			10	精	Drywell spray (RHR) logic: Mark-Iⅈ Drywell temperature	4.2; 3.9	2
295025 High Reactor Pressure / 3				0 3			Safetyfrellef valves: Plant-Specific	4.4	1
295026 Suppression Pool High Water Temp. 5		0 1					Suppression pool cooling	3.9	1
295027 High Containment Temperature / 5							Not Applicable to Peach Bottom Units 2 & 3		0
295028 High Drywell Temperature / 5				0 1	1	State 1	Drywell spray: Mark-I&II	3.8	1
295030 Low Suppression Pool Wtr Lvl / 5	0 3					1. A. A.	Heat capacity	3.8	1
295031 Reactor Low Water Level / 2					教	01.2 _8	Knowledge of the purpose and function of major system components and controls.	3.2	1
95037 SCRAM Condition Present and Power bove APRM Downscale or Unknown / 1					41	04,0 6	Knowledge symptom based EOP mitigation strategies.	3.1	1
95038 High Off-site Release Rate / 9				0 6			Plant ventilation	3.5	1
00000 Plant Fire On Site / 8			0 4				Actions contained in the abnormal procedure for plant fire on site	2.8	1
A Category Totals:	2	4	3	4	4	3	Group Point Total:		20

3

ES-401							ation Outline	Form E	ES-40
Er		1	I		2.	ant E	volutions - Tier 1/Group 2 (RO)	· · · · · · · · · · · · · · · · · · ·	
E/APE # / Name / Safety Function	К 1	К 2	К 3	A 1	A 2	G	K/A Topic(s)	IR	#
295002 Loss of Main Condenser Vac / 3					10	1.4	Offgas system flow	2.8	1
295007 High Reactor Pressure / 3						1 2 1 2 3			(
295008 High Reactor Water Level / 2		0 6			n. In		RCIC: Plant-Specific	3.4	1
295009 Low Reactor Water Level / 2					変数				C
295010 High Drywell Pressure / 5						11 Y 10			C
295011 High Containment Temp / 5						たい語			c
295012 High Drywell Temperature / 5									C
295013 High Suppression Pool Temp. / 5						01: 33	Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.	3.4	1
95014 Inadvertent Reactivity Addition / 1						認識			C
95015 Incomplete SCRAM / 1			0 1			* **	Bypessing rod insertion blocks	3.4	1
95017 High Off-site Release Rate / 9									0
95020 Inadvertent Cont. Isolation / 5 & 7					10 M				0
95022 Loss of CRD Pumps / 1						19			0
95029 High Suppression Pool Wtr Lvl / 5						UQ.	Knowledge symptom based EOP mitigation strategies.	3.1	1
95032 High Secondary Containment Area emperature / 5									0
95033 High Secondary Containment Area tadiation Levels / 9	0 2					1	Personnel protection	3.9	1
95034 Secondary Containment Ventilation ligh Radiation / 9				0 3		5 1 25 5 5 5	Secondary containment ventilation	4	1
95035 Secondary Containment High ifferential Pressure / 5					語に	an a			0
95036 Secondary Containment High ump/Area Water Level / 5									0
00000 High CTMT Hydrogen Conc. / 5									0
A Category Totals:	1	1	1	1	1	2	Group Point Total:		7

ES-401							Pla					nation Outline ier 2/Group 1 (RO)	Form E	ES-401
E/APE # / Name / Safety Function	K 1		: К З									K/A Topic(s)	IR	#
203000 RHR/LPCI: Injection		Ι	Ι	Ι	Γ		Γ	1	T			 System valves; Ability to explain and apply system limits and precautions. 	4.1; 3.4	2
205000 Shutdown Cooling Mode	T	02			T	T				T	C FLAS	Molor operated valves	2.5	1
206000 HPCI	T	T		03			07	1.4		Ť	1.17	Resetting turbine trips: BWR-2, 3, 4; System discharge pressure: BWR-2, 3, 4	4.2; 3.7	2
207000 Isolation (Emergency) Condenser		T	T	T	T		T		ſ	T		Not Applicable to Peach Bottom Units 2 & 3		0
209001 LPCS	0		T	Ì		T				T	1000	A.C. electrical power	3.2	1
209002 HPCS		1	T	1	T	†				T				0
211000 SLC	-	T	03	ſ	T	T	╞			0		Core plate differential pressure indication ; Explosive valves	2.6; 4.1	2
212000 RPS		0	T			ļ-			T	T	Q 2	RPS motor-generator sets; Knowledge of the purpose and	3.2; 3.2	2
215003 IRM	1					0		で花		1			3.6	1
215004 Source Range Monitor	Ť	T								T	の調査の			0
215005 APRM / LPRM		ſ						02	┢			Upscale or downscale trips	3.6	1
217000 RCIC						0		法保守				2	3.4	1
218000 ADS	T					0 2				02		Low pressure core spray system pressure: Plant-Specific; ADS logic initiation	4.1; 4.2	2
223002 PCIS/Nuclear Steam Supply Shutoff								0				A.C. electrical distribution failures	3.2	1
239002 SRVs	T			0 5								Allows for SRV operation from more than one location: Plant Specific	3.6	1
259002 Reactor Water Level Control	T						0 7	282.5		Ī		TDRFP speed: TDRFP	2.6	1
261000 SGTS	╞								0 1				3.2	1
262001 AC Electrical Distribution	t				0 2			Mark.					2.6	1
262002 UPS (AC/DC)	1							1.1		T			2.9	1
263000 DC Electrical Distribution		Π							0 1				3.2	1
264000 EDGs			0 1		0 5							Emergency core cooling systems; Paratleting A.C. power	4.2; 3.4	2
300000 Instrument Air				0 1								Manual/automatic transfers of control	2.8	1
00000 Component Cooling Water			0 1									Loads cooled by CCWS	2.9	1
VA Category Totals:	2	2	3	3	2	3	2	2	2	3	2	Group Point Total:		26

ES-401-1

ES-401							Plan					ation Outline er 2/Group 2 (RO)	Form (S-40 1
E/APE # / Name / Safety Function	1		. K	K K		(K	A	A	A	Ā	1		IR	#
201001 CRD Hydraulic	T		T	T	T	T	T	£.		T				0
201002 RMCS		T	T	T	T	T	t			T				0
201003 Control Rod and Drive Mechanism	T	┢	t	T	T	Τ	T	E.		╞	X			0
201004 RSCS	t		T	T	1	\uparrow	T			┢				0
201005 RCIS	T	1	T	T	T	T	T	4) 93	T	T				0
201006 RWM	T	T	T	ϯ	T	┢	0	14	T	T		Latched group Indication: P-Spec(Not-BWR6)	2.9	1
202001 Recirculation	t	┢	t	T	t	\uparrow	Ť	1	T					0
202002 Recirculation Flow Control		T	┢	0	┢	┢	T	200 1	t	T		Recirculation pump adequate NPSH: Plant-Specific	3.1	1
204000 RWCU	t		┢	Ť	┢	┢	┢╴	Ç,	T	0		System pumps	3.1	1
214000 RPIS	ſ	┢	┢	+-	┢╴		\square	.0 1	t	†	1		3.1	1
215001 Traversing In-core Probe	\uparrow	┢	┢	\uparrow	t	\uparrow	T		t	┢				0
215002 RBM	\uparrow	┢	┢	\dagger	F	╞	F	H	T	┢	深刻			0
216000 Nuclear Boiler Inst.	┢	t	t	t	\square	\vdash	┢	1	┢┈	┢			-	0
219000 RHR/LPCI: Torus/Pool Cooling Mode		0	┢	╞	\square	╎	┢	1					3.1	1
223001 Primary CTMT and Aux.		Ê		┢	\vdash	1	_					Applicable plant air system/ nitrogen make-up system.	3.2	1
226001 RHR/LPCI: CTMT Spray Mode	F	\vdash	┢	t	┢	Ĵ			┢	03		Spray valves	3.5	1
230000 RHR/LPCI: Torus/Pool Spray Mode	┢	┢	┢		┢		\square		┢	ŀ				0
233000 Fuel Pool Cooling/Cleanup	┢	+				\vdash	\vdash	4					+	0
234000 Fuel Handling Equipment			23	5			1.15			凝				0
239001 Main and Reheat Steam	1	1.015	* 293 1	ľ		<u></u>			0	73		lectation of main steam system	4.2	1
239003 MSIV Leakage Control									-			·····		0
241000 Reactor/Turbine Pressure Regulator				-							01	Ability to locate and operate components, including local controls.	3.9	1
245000 Main Turbine Gen. / Aux.					_						新		┥┤	0
256000 Reactor Condensate	-		-			\square								0
259001 Reactor Feedwater					0			業				Water hammer	2.5	1
268000 Radwaste	-				2			5 S 3				····		0
271000 Offgas		\vdash		\vdash		⊢┤		1					╉╶┨	0
272000 Radiation Monitoring			1					i Ri			が歴	Control room ventilation: Ptant-Specific	2.9	1
286000 Fire Protection		$\left \right $	0			-				—			+	
288000 Plant Ventilation		_		Н			-	19 19					┼╌┼	
290001 Secondary CTMT		\square					-		-				╉╌┨	 0
290003 Control Room HVAC		\vdash		\square					\neg		1		╉┤	0
290002 Reactor Vessel Internals	0	Η							-		1. N	Recirculation system	3.2	
VA Category Totals:	2	1	1	1	1	1	1	1	1	2		Group Point Total:	, <u>*_</u>	12

2

ES-401 Em	ergen	icy an	id Abi				ation Outline ivolutions - Tier 1/Group 1 (SRO)	Form I	ES-40
E/APE # / Name / Safety Function	К 1	К 2	К 3	A 1	A 2			IR	#
295001 Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4					0 1		Power/flow map	3.8	1
295003 Partial or Complete Loss of AC / 6									0
295004 Partial or Total Loss of DC Pwr / 6						02 22		4.1	1
295005 Main Turbine Generator Trip / 3									0
295006 SCRAM / 1						:			0
295016 Control Room Abandonment / 7		_							0
295018 Partial or Total Loss of CCW / 8									0
295019 Partial or Total Loss of Inst. Air / 8									0
295021 Loss of Shutdown Cooling / 4					No.				0
295023 Refueling Acc / 8									0
295024 High Drywell Pressure / 5						02. 25	Knowledge of bases in technical specifications for limiting conditions for operations and safety limits.	3.7	1
295025 High Reactor Pressure / 3									0
295026 Suppression Pool High Water Temp. 5									0
295027 High Containment Temperature / 5									0
295028 High Drywell Temperature / 5					0 1		Drywell temperature	4.1	1
295030 Low Suppression Pool Wtr Lvl / 5					0 2		Suppression pool temperature	3.9	1
95031 Reactor Low Water Level / 2									0
95037 SCRAM Condition Present and Power bove APRM Downscale or Unknown / 1					0 2	-	Reactor water level	4.2	1
95038 High Off-site Release Rate / 9					7				0
00000 Plant Fire On Site / 8						04. 30	Knowledge of which events related to system operations/status should be reported to outside agencies.	3.6	1
/A Category Totals:	0	0	0	0	4	3	Group Point Total:		7

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ES-401 Err	eraen	icv ar	id Ahi				ation Outline volutions - Tier 1/Group 2 (SRO)	Form I	ES-40 ⁻
E/APE # / Name / Safety Function	К	к	ĸ	A	A	G	I and the second s	IR	#
295002 Loss of Main Condenser Vac / 3	1	2	3	1	2				
295007 High Reactor Pressure / 3									0
295008 High Reactor Water Level / 2									0
295009 Low Reactor Water Level / 2					0 2		Steam flowlfeedflow mismatch	3.7	1
295010 High Drywell Pressure / 5									0
295011 High Containment Temp / 5									0
295012 High Drywell Temperature / 5									0
295013 High Suppression Pool Temp. / 5									0
295014 Inadvertent Reactivity Addition / 1									0
295015 Incomplete SCRAM / 1						そのための な			0
295017 High Off-site Release Rate / 9					`0 4		Source of off-site release	4.3	1
295020 Inadvertent Cont. Isolation / 5 & 7									0
295022 Loss of CRD Pumps / 1					部に	02. 25	Knowledge of bases in technical specifications for limiting conditions for operations and safety limits.	3.7	1
295029 High Suppression Pool Wtr Lvl / 5					N				0
295032 High Secondary Containment Area Femperature / 5						7			0
295033 High Secondary Containment Area Radiation Levels / 9						All yes			0
295034 Secondary Containment Ventilation High Radiation / 9									0
295035 Secondary Containment High Differential Pressure / 5									0
295036 Secondary Containment High Sump/Area Water Level / 5									0
00000 High CTMT Hydrogen Conc. / 5									0
VA Category Totals:	0	0	0	0	2	·1.	Group Point Total:		3

400000 Component Cooling Water

K/A Category Totals:

ES-401								_	_		4	Form	n ES-	401-1
ES-401	i							BV	VR	Exai	nina	tion Outline	Form	ES-401-
						P	lant	Sys	ster	ns -	Tier	2/Group 1 (SRO)		-
E/APE # / Name / Safety Function	К 1		к 3	К 4	К 5	К 6	A 1	A 2	A 3		G	K/A Topic(s)	IR	#
203000 RHR/LPCI: Injection														0
205000 Shutdown Cooling Mode	Τ													0
206000 HPCI	1		ſ		T	ſ		07			•••	Low suppression pool level: BWR-2, 3, 4	3.6	1
207000 Isolation (Emergency) Condenser														0
209001 LPCS			Γ					1.						0
209002 HPCS	1													0
211000 SLC		Γ									1.116.			0
212000 RPS											5.4			0
215003 IRM														0
215004 Source Range Monitor											A STATE			0
215005 APRM / LPRM											ALC: NO			0
217000 RCIC								$\frac{1}{2}$						0
218000 ADS								0 3			1. a. Que	Loss of air supply to ADS valves: Plant-Specific	3.6	1
223002 PCIS/Nuclear Steam Supply Shutoff								1			1. a. i.	Standby liquid initiation	3.9	1
239002 SRVs								A. X. S.			02, 25	Knowledge of bases in technical specifications for limiting conditions for operations and safety limits.	3.7	1
259002 Reactor Water Level Control								- 31			(-1,0,0)			0
261000 SGTS	Π													0
262001 AC Electrical Distribution														0
262002 UPS (AC/DC)														0
263000 DC Electrical Distribution										Ţ		·· · · · · · · · · · · · · · · · · · ·		0
264000 EDGs								0 7				Loss of off-site power during full-load testing	3.7	1
300000 Instrument Air														0

1. Group Point Total:

00

0 4

0 0 0 0 0 0

0

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ES-401							Plar						ation Outline r 2/Group 2 (SRO)	Form E	S-401
E/APE # / Name / Safety Function	K	К 2			1	ĸ	ĸ	_	A 2	A 3	A 4	G		IR	#
201001 CRD Hydraulic	+	╧			+	<u> </u>	╹		2	3	4				0
201002 RMCS	╋	┢	╈	╉	╉	╈	╋			_	-			-	0
201003 Control Rod and Drive Mechanism	╀	┢	╈	╉	╉	╋	╈	-	4.9 4.5				······································	-	0
201004 RSCS	+	╀	╀	╈	╈	╋	╉		i.		_			+	0
201005 RCIS	+	┢	┢	╉	╀	+					_				
201006 RWM	┢	┢	┢	\uparrow	╈	╉	╉							+	0
202001 Recirculation	╀	\uparrow	┢	╈	╀	╋	╉		1	-		02	Knowledge of limiting conditions for operations and safety limits.	4.1	1
202002 Recirculation Flow Control	╀	┢	╞	┢	\uparrow	╈	╈	╏		-		22 315 411			0
204000 RWCU	┢	┢	┢	╞	┢		╈	A			-	盛			0
214000 RPIS	\vdash	$\left \right $	\uparrow	\uparrow	T	╈	\dagger	2	<u> </u>	-		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1	0
215001 Traversing In-core Probe	+	\uparrow	┢╴	\dagger	┢	╀	\dagger	1.4	_	┫		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1			0
215002 RBM		t	┢╴	t	┢	╀	t	1	N.	╡		1. State			0
216000 Nuclear Boiler Inst.	┢	F	╞	T	t	╀	\dagger	\$	_	╡	_		Instrument line loakage	3.1	1
219000 RHR/LPCI: Torus/Pool Cooling Mode	+		ŀ	┢	┢	┢	\dagger		-	┫		-			0
223001 Primary CTMT and Aux.	┢	\square	┢	\uparrow	t	╞	\dagger		<u> </u>	┫		1. A.			0
226001 RHR/LPCI: CTMT Spray Mode	┢			T	t	╈	╞		7	1		法兵			0
230000 RHR/LPCI: Torus/Pool Spray Mode	┢				T	T	T	1		╋		133			0
233000 Fuel Pool Cooling/Cleanup				T	t	t	T	N.		1					0
234000 Fuel Handling Equipment					t		1		-	0 2			Interlock operation	3.7	1
239001 Main and Reheat Steam				┢	ſ	1	ϯ	2	-			言語			0
239003 MSIV Leakage Control				T	T	T	T	S.	_	T					0
241000 Reactor/Turbine Pressure Regulator					F	T	T			T		1.27			O
245000 Main Turbine Gen. / Aux.				T		1	T	1	_			in the second se			0
256000 Reactor Condensate				Γ		Γ	T	1		T					0
259001 Reactor Feedwater	\square				Γ		Γ	3		T		*	, <u> </u>		0
268000 Radwaste						1	T			T					0
271000 Offgas	\square				Γ		Γ	14		T	1		· · · · · · · · · · · · · · · · · · ·		0
272000 Radiation Monitoring	Π					Γ				↑	1	1 1 1			0
286000 Fire Protection			-			T	Γ		T	T	1				0
288000 Plant Ventilation						Γ	T		T	↑	1				0
290001 Secondary CTMT						Γ				T	1				0
290003 Control Room HVAC						Γ			T	Ť	1	N.			0
290002 Reactor Vessel Internals										Ť	1				0
VA Category Totals:	0	0	0	0	0	0	0	Īī	Ī	ī	0	1	Group Point Total:		3

ES-401		Generic Knowledge and Abilities Outline (Tier 3)		•	form ES	5-401
Facility Nan	ne:Peach	Bottom 2 & 3 Date of Exam:February 7, 2005		·		
Category	К/А #	Торіс		20)-Only
	2.1.05	Ability to locate and use procedures and directives related to shift staffing and activities.	IR	#	<u>IR</u> 3.4	<u>#</u>
	2.1.22	Ability to determine Mode of Operation.			3.3	1
	2.1.03	Knowledge of shift turnover practices.	3			<u>⊢</u> '
1. Conduct of	2.1.03	Ability to obtain and interpret station reference materials such as graphs, monographs, and	2.8			
Operations	2.1.29	tables which contain performance data.		1	<u> </u>	ļ
	2.1. 23		3.4			
	Subtota	<u> </u>		3		2
	2.2. 23	Ability to track limiting conditions for operations.		<u>`</u>	3.8	1
	2.2. 29	Knowledge of SRO fuel handling responsibilities.			3.8	1
2.	2.2. 02	Ability to manipulate the console controls as required to operate the facility between shutdown and designated power levels.	4	1		
Equipment Control	2.2. 12	Knowledge of surveillance procedures.	3	1		
Control	2.2. 30	Knowledge of RO duties in the control room during fuel handling such as alarms from fuel handling area / communication with fuel storage facility / systems operated from the control room in support of fueling operations / and supporting instrumentation.	3.5	1		
	2.2.					
	Subtota			3		2
	2.3. 02	Knowledge of facility ALARA program.			2.9	1
	2.3. 01	Knowledge of 10 CFR 20 and related facility radiation control requirements.	2.6	1		
3.	2.3. 04	Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized.	2.5	1		
Radiation Control	2.3.					
	2.3.					
	2.3.					
	Subtota		;	2		1
	2.4. 04	Ability to recognize abnormal indications for system operating parameters which are entry- level conditions for emergency and abnormal operating procedures.			4.3	1
	2.4. 44	Knowledge of emergency plan protective action recommendations.			4	1
l. Emergency	2.4. 12	Knowledge of general operating crew responsibilities during emergency operations.	3.4	1		
Procedures Plan		Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.	4	1		
	2.4.					
	2.4.					
	Subtotal			2	4 1	2
ier 3 Point 1	Fotal			10		7

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Administrative Topics Outline

Form ES-301-1

Facility: <u>Peach Bottom</u> Examination Level (circle o		ate of Examination: <u>Weeks of February 7 & 14, 2005</u> RO Operating Test Number: <u>RO</u>						
Administrative Topic (see Note)	Type Code*	Describe activity to be performed						
Conduct of Operations Temporary Procedure Change	D, P, S	Initiate A Temporary Procedure Change.						
Conduct of Operations Parameter Verification	N, S	Drywell Bulk Average Manual Temperature Verification.						
Equipment Control P&IDs/ Clearance Points	N, S	Use station prints to identify component Clearance Points.						
Radiation Control	N/A	Not Required.						
Emergency Plan Emergency Communications	N, S	Perform State and Local Notifications following the declaration of an Emergency Condition.						
NOTE: All items (5 total) ar they are retaking on	e required for	or SROs. RO applicants require only 4 items unless nistrative topics, when 5 are required.						
* Type Codes & Criteria: (C)ontrol room							
(1	D)irect from	bank (\leq 3 for ROs; \leq 4 for SROs & RO retakes)						
1)	N)ew or (M)o	odified from bank (≥ 1)						
(F	^p)revious 2 e	exams (≤ 1; randomly selected)						
(5	(S)imulator							

ES 301-1, Page 22 of 27

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Administrative Topics Outline

Form ES-301-1

Facility: <u>Peach Bottom</u> Examination Level (circle o		ate of Examination: <u>Weeks of February 7 & 14, 2005</u> GRO Operating Test Number: <u>SRO</u>							
Administrative Topic (see Note)	Type Code*	Describe activity to be performed							
Conduct of Operations Procedure Modification	N, S	Authorize a deviation from the Control Rod Sequence on a Control Rod Move Sheet.							
Conduct of Operations Parameter Verification	D. P. S. Conduct a Manual Heat Balance								
Equipment Control Clearance and Tagging	N, S	Evaluate a Clearance for approval.							
Radiation Control Authorizing Emergency Exposure	N, S	Authorize an Emergency Exposure.							
Emergency Plan Emergency Notifications.	N, S	Prepare the State and Local Notification Form for an Emergency Classification.							
NOTE: All items (5 total) an they are retaking on	e required for the admining the	or SROs. RO applicants require only 4 items unless nistrative topics, when 5 are required.							
* Type Codes & Criteria: (C)ontrol roon	1							
])	D)irect from	bank (≤3 for ROs; ≤ 4 for SROs & RO retakes)							
1)	N)ew or (M)	odified from bank (≥ 1)							
(F)revious 2	exams (≤ 1; randomly selected)							
(5	S)imulator								

ES 301-1, Page 22 of 27

Control Room/In-Plant Systems Outline

Form ES-301-2

Facility: Peach Bottom Date of EExam Level (circle one):RO / SRO(I) / SRO(U)	xamination: <u>Week of Febru</u> Operating	ary 7_& 14, 200 Test Number:			
Control Room Systems [@] (8 for RO; 7 for SRO-I; 2	or 3 for SRO-U)				
System / JPM Title		Type Code	Safety Function		
a. Standby Liquid Control (SBLC) / Inject Boron in Path - Low SBLC Pump Discharge Pressure)	to the RPV (Alternate	A, N, S	1		
b. Reactor Core Isolation Cooling (RCIC) / Manua (Alternate Path - Cooling Water Valve Fails to C	A, N, S	2			
c. Automatic Depressurization System (ADS) / AD Blowdown		(ESF) D, S, L (ESF)	3		
d. High Pressure Coolant Injection (HPCI) / Raise Path - Suction Valves Fail to Auto Swap on Low	•	A, M, S (ESF)	4		
e. Containment Atmosphere Dilution (CAD) / Nitro Containment during Normal Operations	gen Addition to the	D, S	5		
f. Emergency Generators / Diesel Generator Sync	M, S (ESF)	6			
g. Component Cooling Water / Verify proper isolat Water (DWCW) and Reactor Building Closed Co	•	N, S, L	8		
h. Offgas System / Place the Standby Steam Jet A Service		D, S	9		
In-Plant Systems [@] (3 for RO; 3 for SRO-I; 3 or 2 fo	r SRO-U)				
i. Main and Reheat Steam / Closing a Stuck Open Main Steam Isolation M, A, E, Valve (MSIV) (Alternate Path - AC Fuses fail to close MSIV) L, R (ESF)					
j. Reactor Protection System (RPS) / Scram Solen	D, E, R (ESF)	7			
 k. Plant Ventilation / Restoring Control Room Ventility Radiation Trip 	ilation following a High	D, R	9		
@ All control room (and in-plant) systems must be in-plant systems and functions may overlap tho		-	ns;		
*Type Codes	Criteria for RO	SRO-I / SRO-U	J		
(A)Iternate path	4-6 /	4-6 / 2-3			

ES-301

(C)ontrol room	
(D)irect from bank	<u>≤9/ ≤8 /≤4</u>
(E)mergency or abnormal in-plant	<u>≥ 1 / ≥1 /≥1</u>
(L)ow-Power	<u>≥1/≥1 /≥1</u>
(N)ew or (M)odified from bank including 1(A)	<u>≥2/ ≥2 /≥1</u>
(P)revious 2 exams	<u>≤</u> 3/ <u>≤</u> 3 / <u>≤</u> 2
	(randomly selected)
(R)CA	<u>≥</u> 1 / <u>≥</u> 1 / <u>></u> 1
(S)imulator	
Engineered Safeguard Feature (ESF)	ESF systems referenced from those listed in Section 1.6.2 of the Peach Bottom UFSAR.

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ES-301, page 23 of 27

Control Room/In-Plant Systems Outline

Form ES-301-2

Facility:Peach BottomDate of ExExam Level (circle one):RO / SRO(I) / SRO(U)	amination: <u>Week of Febru</u> Operating Te	ary 7 & 14, 200 st Number: <u>S</u>				
Control Room Systems [@] (8 for RO; 7 for SRO-I; 2 c	or 3 for SRO-U)					
System / JPM Title		Type Code	Safety Function			
a. Standby Liquid Control (SBLC) / Inject Boron inte Path - Low SBLC Pump Discharge Pressure)	A, N, S	1				
 b. Reactor Core Isolation Cooling (RCIC) / Manual (Alternate Path - Cooling Water Valve Fails to O) 	A, N, S (ESF)	2				
c. Automatic Depressurization System (ADS) / ADS Blowdown	S Reset Following	D, S, L (ESF)	3			
d. High Pressure Coolant Injection (HPCI) / Raise I Path - Suction Valves Fail to Auto Swap on Low	,	A, D, S (ESF)	4			
e. Containment Atmosphere Dilution (CAD) / Nitrog Containment during Normal Operations	en Addition to the	D, S	5			
f. Emergency Generators / Diesel Generator Synch	M, S (ESF)	6				
 g. Component Cooling Water / Verify proper isolation Water (DWCW) and Reactor Building Closed Co 	-	N, S, L	8			
In-Plant Systems [@] (3 for RO; 3 for SRO-I; 3 or 2 for	SRO-U)					
h. Main and Reheat Steam / Closing a Stuck Open Valve (MSIV) (Alternate Path - AC Fuses fail to cl	M, A, E, L, R (ESF)	3				
i. Reactor Protection System (RPS) / Scram Solence	D, E, R (ESF)	7				
 j. Plant Ventilation / Restoring Control Room Ventila Radiation Trip 	D, R	9				
@ All control room (and in-plant) systems must be in-plant systems and functions may overlap thos			ns;			
*Type Codes	Criteria for RO		U			
(A)Iternate path	4-6 /	4-6 / 2-3				
(C)ontrol room (D)irect from bank < 9 / < 8 / < 4						

ES-301

(E)mergency or abnormal in-plant	<u>≥ 1 / ≥1 /≥1</u>
(L)ow-Power	<u>≥ 1 / ≥1 /≥1</u>
(N)ew or (M)odified from bank including 1(A)	<u>≥2/ ≥2 /≥1</u>
(P)revious 2 exams	<u>≤3/ ≤3 /≤</u> 2
	(randomly selected)
(R)CA	<u>≥1/ ≥1 /≥1</u>
(S)imulator	
Engineered Safeguard Feature (ESF)	ESF systems referenced from those listed in Section 1.6.2 of the Peach Bottom UFSAR.

ES-301, page 23 of 27

Control Room/In-Plant Systems Outline

ES-301

Form ES-301-2

	kamination: Week of Februa							
Exam Level (circle one): RO / SRO(I) / SRO(U) Operating Test Number: <u>SRO (U)</u>								
Control Room Systems [@] (8 for RO; 7 for SRO-I; 2	or 3 for SRO-U)							
System / JPM Title	Type Code	Safety Function						
a. Standby Liquid Control (SBLC) / Inject Boron in	A, N, S	1						
Path - Low SBLC Pump Discharge Pressure)								
b. Reactor Core Isolation Cooling (RCIC) / Manual	System Startup	A, N, S	2					
(Alternate Path - Cooling Water Valve Fails to C	pen Automatically)	(ESF)						
c. Component Cooling Water / Verify proper isolati	ion of Drywell Chilled	N, S, L	8					
Water (DWCW) and Reactor Building Closed Co	ooling Water (RBCCW).							
In-Plant Systems [@] (3 for RO; 3 for SRO-I; 3 or 2 fo	r SRO-U)							
d. Main and Reheat Steam / Closing a Stuck Oper	Main Steam Isolation	M, A, E,	3					
Valve (MSIV) (Alternate Path - AC Fuses fail to c	close MSIV)	L, R						
		(ESF)						
e. Reactor Protection System (RPS) / Scram Soler	D, E, R	7						
		(ESF)						
@ All control room (and in-plant) systems must be	different and serve differen	nt safety functio	ons;					
in-plant systems and functions may overlap tho	se tested in the control room	m						
*Type Codes	Criteria for RO /	SRO-I / SRO-	U					
(A)Iternate path	4-6 /	4-6 / 2-3						
(C)ontrol room								
(D)irect from bank	≤9/	<u><</u> 8 / <u><</u> 4						
(E)mergency or abnormal in-plant	≥1/	<u>></u> 1 / <u>></u> 1						
(L)ow-Power	<u>≥</u> 1/	<u>≥</u> 1 / <u>≥</u> 1						
(N)ew or (M)odified from bank including 1(A)	≥2/	<u>≥2 /≥1</u>						
(P)revious 2 exams	≤3/	<u>≤</u> 3 / <u><</u> 2						
	(randon	nly selected)						
(R)CA	≥1/	<u>≥</u> 1 /≥1						
(S)imulator								
Engineered Safeguard Feature (ESF)	ESF systems referenced Section 1.6.2 of the Peac							

ES-301, page 23 of 27

				Scenario	Outline		ES-D-1
Simula	tion Facility Peac	h Botto	m	Scenario No.	#1	Op Test No.	
Examir	ners				Operators		CRS
	- <u></u>				-		PRO
							URO
Scenar Summa Initial C Turnoy	ary is 14 hours i RBCCW put RBCCW, the approved st standby pun After the Ter received. A action to op being consid Once the Ter into OT-101 will manually insert resulti Attempts to perform a T- degrees F. accordance when the RF	into a 2 mps for e crew artup so np will r ch Spea n inves en the t dered ir ech Spe y scram ing in a spray tl -112, Ei With se with T-: >V depi	4 hour su inspection is to contri- equence. require the c determination we preaker for hoperable c interpre- Drywell Pla the react in ATWS. he drywell mergency everal rod 240 prior ressurization	Inveillance run. E on of a noisy bea inue with the read A trip of the run e operators to man nation, a high Sta vill determine that or the heater. A r e due to the loss of etation is complet ressure. The creater tor and enter T-1 If will fail due to a y Blowdown when s stuck out, the of to the emergence tion is performed	During the turnor ring on the 'B' I ctor startup pull ning ESW purr anually start th andby Liquid C t the tank heat review of Tech of NPSH to the te, a recirc leak w will take action 01, RPV Control drywell spray in drywell tempor rew will need to y depressuriza	reactor startup. The E-1 over, the crew is directed RBCCW pump. Followin lling control rods in acco on with a failure of the au e standby pump and con control Tank temperature er had stuck on and the Specs will result in the S pumps. A develops in the drywell ons for the rising drywell ons for the rising drywell fol. During the scram, fir logic failure and the crew erature cannot be mainta to terminate and prevent tion. The scenario may	d to swap g the swap of rdance with the uto-start on the nsult Tech Specs. e alarm will be crew should take SBLC system requiring entry I pressure and we rods will fail to w will need to ained below 281 injection in
Event	Malfunction	E	vent	T		Event	
No.	No.	T	ype*			Description	
1		N	ATC BOP SRO	Swap of RBCC	W pumps.		·
2		R	ATC SRO	Power Ascensi	ion with Contro	l Rods.	·
3	Override	I	BOP SRO	ESW Pump Tri	p and failure o	f the Standby to Auto-St	art (Tech Spec).
4	Override	с	ATC BOP SRO	Standby Liquid	Control Tank	High Temperature (Tech	n Spec).
5	RRS20	м	ATC BOP SRO	Recirculation S	system leak in t	he drywell.	
6	Preinserted CRM02XXXX	с	ATC BOP SRO	Five Rods stick	full out during	the scram.	
7	Preinserted Override	1	ATC BOP SRO	DW Spray Valv	e Logic Failure	e prevents Drywell Spray	/S.

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

	ion Facility Peac	ch Bottom	Scenario No.	#2	Op Test No.	
Examir	ners			Operators		CRS
		<u> </u>				PRO
						URO
Scenar					CIC surveillance in p	rogress. Follow
Summa	ary the RCIC te	sting, the crew i	is to commence a	GP-3, Normal P	lant Shutdown.	
					n is received (similar	
					plete a Tech Spec int	
					fter the reactivity ma rew will pursue the i	
					either CRD pump fo	
					o accumulator alarm	
		ch Spec scram.	•			•
	When the R	O attempts to sl	hutdown the plant	, an electrical AT	WS will occur requir	ing entry into T-
	101, RPV C	ontrol. Shortly a	after tripping the re	ecirculation pump	os, the 'D' SRV will fa	ail full open
			Stuck Open Safe	ty Relief Valve, a	nd ultimately T-102,	Primary
	Containmen	t Control.				
	When the R	O maximizes to	rus cooling the 'A		is Cooling Valve (MC	7-39A) will trip o
					.oop of RHR causing	
					mary Containment C	
					ow 110°F, Standby L	
			perature carmor b	e maintained bei	OW TTO'F, Standoy L	
			id the pumps will f		ow 110 F, Standoy L	
,	(SBLC) will I	be attempted an	id the pumps will f	ail to start.		•
	(SBLC) will I After level ha	be attempted an as been lowered	d the pumps will f to control power,	ail to start. , the ATWS will b	e terminated by T-2	14, Venting the
	(SBLC) will I After level ha	be attempted an as been lowered	d the pumps will f to control power,	ail to start. , the ATWS will b		14, Venting the
Initial C	(SBLC) will I After level ha Scram Air Ha	be attempted an as been lowered eader. The scer	d the pumps will f to control power,	ail to start. , the ATWS will b inated after all co	e terminated by T-2 ontrol rods are verifie	14, Venting the
Initial C Turnove	(SBLC) will I After level ha Scram Air H ondition IC-122	be attempted an as been lowered eader. The scer 2, 100% power v	d the pumps will f to control power, nario may be termi with the 'B' loop of	ail to start. , the ATWS will b inated after all co	e terminated by T-2 ontrol rods are verifie	14, Venting the
Turnove	(SBLC) will I After level ha Scram Air H ondition IC-122 er: See Attached	be attempted an as been lowered eader. The scer 2, 100% power v 1 "Shift Turnover	d the pumps will f to control power, nario may be termi with the 'B' loop of " Sheet	ail to start. , the ATWS will b inated after all co	e terminated by T-2 ontrol rods are verifie	14, Venting the
	(SBLC) will I After level ha Scram Air H ondition IC-122	be attempted an as been lowered eader. The scer 2, 100% power v	d the pumps will f to control power, nario may be termi with the 'B' loop of " Sheet Event Description	ail to start. the ATWS will b inated after all co Torus Cooling in	e terminated by T-2 ontrol rods are verifie n service.	14, Venting the
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Turnove Event	(SBLC) will I After level ha Scram Air H ondition IC-122 er: See Attached Malfunction	be attempted an as been lowered eader. The scer 2, 100% power v "Shift Turnover Event Type"	d the pumps will f to control power, nario may be termi with the 'B' loop of " Sheet Event Description	ail to start. the ATWS will b inated after all co Torus Cooling in	e terminated by T-2 ontrol rods are verifie n service.	14, Venting the
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Turnove Event No. 1	(SBLC) will I After level ha Scram Air H ondition IC-122 er: See Attached Malfunction No. Preinserted	be attempted an as been lowered eader. The scer 2, 100% power v "Shift Turnover Event Type* N PRO CRS C PRO CRS	d the pumps will f to control power, nario may be termi with the 'B' loop of " Sheet Event Description Perform RCIC S RCIC Low Lube	ail to start. the ATWS will b inated after all co Torus Cooling in Surveillance Tes Oil Pressure Al	e terminated by T-2 ontrol rods are verifie n service.	14, Venting the dinserted.
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Turnovo Event No. 1 2	(SBLC) will I After level ha Scram Air H ondition IC-122 ar: See Attached Malfunction No. Preinserted Override on Event Trigger CRH03 Preinserted	be attempted an as been lowered eader. The scer 2, 100% power v "Shift Turnover Event Type" N PRO CRS C PRO CRS R URO PRO CRS C URO PRO CRS M PRO	d the pumps will f to control power, hario may be termi with the 'B' loop of " Sheet Event Description Perform RCIC S RCIC Low Lube Commence GP Loss of Control required scram	ail to start. the ATWS will b inated after all co Torus Cooling in Surveillance Tes Oil Pressure Al -3, Normal Plant Rod Drive Syste when it cannot b	e terminated by T-2 ontrol rods are verifie a service. arm (Tech Spec). Shutdown with Cont m pumps results in a	14, Venting the od inserted. trol Rods.
Turnovo Event No. 1 2	(SBLC) will I After level ha Scram Air H ondition IC-122 er: See Attached Malfunction No. Preinserted Override on Event Trigger	be attempted an as been lowered eader. The scer 2, 100% power v "Shift Turnover Event Type* N PRO CRS C PRO CRS R URO PRO CRS C URO PRO CRS	d the pumps will f to control power, hario may be termination may be termination with the 'B' loop of " Sheet Event Description Perform RCIC S RCIC Low Lube Commence GP	ail to start. the ATWS will b inated after all co Torus Cooling in Surveillance Tes Oil Pressure Al -3, Normal Plant Rod Drive Syste when it cannot b	e terminated by T-2 ontrol rods are verifie a service. arm (Tech Spec). Shutdown with Cont m pumps results in a	14, Venting the od inserted. trol Rods.
Turnovo Event No. 1 2	(SBLC) will I After level ha Scram Air H ondition IC-122 er: See Attached Malfunction No. Preinserted Override on Event Trigger CRH03 Preinserted Overrides	be attempted an as been lowered eader. The scer 2, 100% power v "Shift Turnover Event Type" N PRO CRS C PRO CRS C PRO CRS C URO PRO CRS C URO PRO CRS	d the pumps will f to control power, hario may be termi with the 'B' loop of " Sheet Event Description Perform RCIC S RCIC Low Lube Commence GP Loss of Control required scram	ail to start. the ATWS will b inated after all co Torus Cooling in Surveillance Test Oil Pressure Al -3, Normal Plant Rod Drive Syste when it cannot b 5.	e terminated by T-2 ontrol rods are verifie a service. arm (Tech Spec). Shutdown with Cont m pumps results in a e restored promptly	14, Venting the od inserted. trol Rods.
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7	Preinserted Override	С	PRO	'A' RHR Loop Torus Cooling valve fails closed limiting torus cooling.
8	Preinserted SLC01	I	URO PRO CRS	Standby Liquid Control Pumps fail to start.

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

SIDUATIO		h D-#	Scenario			ES-D-1
	n Facility Peac	h Bottom	Scenario No.	#3	Op Test No.	
Examiner	s <u> </u>			Operators		CRS
				_		PRO
						URO
Scenario Summary		CRD) Flow Cont			over directs the cready to observe o	ew to swap Control peration of the
	appropriate I 25, Installation inserted, ma valve. When swapped back begin to drift reduction to apply the tech A leak develor Secondary C Depressurize	half reactor scra on of Trips/Isola intenance will ca it is swapped, i ck to the original . The crew will 950 Mwe will be sh spec requirem ops in the React containment Cor ation will be requ	m. The crew will tions to satisfy Te all requesting that it will be recogniz flow controller. Venter ON-121, Dr enter ON-121, Dr required due to the nents for these control tor Water Cleanup ntrol. The RWCU uired when max s	apply tech spec: ch Spec/TRM R the CRD flow ca ed that the stand When the swap i ifting Control Roc he drifted contro nditions. co (RWCU) Syste valves cannot be afe temperatures	s and insert the ha equirements. After ontrol valve be swe by valve is failed s complete, a sing d and drive the root rod. Again, the of m and the crew we isolated and a T- are exceeded in	apped to the stand open and CRD will gle control rod will d in. A fast power crew will review and ill enter T-103, -112, Emergency
Initial Con Turnover: Event		"Shift Turnover"	ull Power Rod Pa ' Sheet T		Event	
4					LACUIT	
No.	No.	Type*			scription	
<u>No.</u> 1	No. Overrides	I URO PRO	Drywell Pressu scram (Tech Sp	re Instrument fail		the expected half
		I URO PRO CRS N URO PRO	scram (Tech Sp	re Instrument fail	s upscale without	the expected half
		I URO PRO CRS N URO PRO CRS C URO PRO	scram (Tech Sp Swap Control R	re Instrument fail bec). Rod Drive Flow C	s upscale without	
1 2 .3	Overrides Preinserted	I URO PRO CRS N URO PRO CRS C URO PRO CRS C URO PRO	scram (Tech Sp Swap Control R Control Rod Dri	re Instrument fail bec). Rod Drive Flow C	s upscale without ontrol Valves. Valve Fails Open.	
1 2 .3	Overrides Preinserted CRH03B	I URO PRO CRS N URO PRO CRS C URO PRO CRS C URO PRO CRS R URO PRO	scram (Tech Sp Swap Control R Control Rod Dri Single Control R	re Instrument fail bec). Rod Drive Flow C ve Flow Control Rod Drifts (Tech	s upscale without ontrol Valves. Valve Fails Open.	
1 2 .3 .4 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5	Overrides Preinserted CRH03B	I URO PRO CRS N URO PRO CRS C URO PRO CRS C URO PRO CRS R URO PRO CRS M URO	scram (Tech Sp Swap Control R Control Rod Dri Single Control R Fast Power Rec	re Instrument fail bec). Rod Drive Flow C ve Flow Control Rod Drifts (Tech	s upscale without ontrol Valves. Valve Fails Open. Spec).	
1 2 3 4 5	Overrides Preinserted CRH03B CRH043035 RWC06	I URO PRO CRS N URO PRO CRS C URO PRO CRS C URO PRO CRS R URO PRO CRS M URO PRO CRS	scram (Tech Sp Swap Control R Control Rod Dri Single Control R Fast Power Rec RWCU Leak In	re Instrument fail bec). Rod Drive Flow C ve Flow Control Rod Drifts (Tech luction due to the the Reactor Build	s upscale without ontrol Valves. Valve Fails Open. Spec). 9 Drifting Control F	
1 2 .3 .4 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5	Overrides Preinserted CRH03B CRH043035	I URO PRO CRS N URO PRO CRS C URO PRO CRS C URO PRO CRS R URO PRO CRS M URO PRO CRS C URO PRO CRS C URO PRO CRS	scram (Tech Sp Swap Control R Control Rod Dri Single Control R Fast Power Rec RWCU Leak In RWCU Isolation	re Instrument fail bec). Rod Drive Flow C ve Flow Control Rod Drifts (Tech luction due to the the Reactor Bulk Valves Fail Ope	s upscale without ontrol Valves. Valve Fails Open. Spec). 9 Drifting Control F	
1 2 .3 .4 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5	Overrides Preinserted CRH03B CRH043035 RWC06 Preinserted	I URO PRO CRS N URO PRO CRS C URO PRO CRS C URO PRO CRS R URO PRO CRS M URO PRO CRS C URO PRO CRS C URO	scram (Tech Sp Swap Control R Control Rod Dri Single Control R Fast Power Rec RWCU Leak In RWCU Isolation	re Instrument fail bec). Rod Drive Flow C ve Flow Control Rod Drifts (Tech luction due to the the Reactor Bullo Valves Fail Ope ontrol Fails.	s upscale without ontrol Valves. Valve Fails Open. Spec). 9 Drifting Control F	

	Preinserted	С	URO	ADS SRV 'C' Fails to open manually.
9	MSS08C		PRO	· · ·
			CRS	

• (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor