PWR Examination Outline

cility: V.	C. Sun	nmer											Dat	e of	Exam	•		
Tier	Group			RC) K/A	Cate	gory	Poir	its						SRO-	Only	Por	nts
	_	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G*	Total	К	A	A2	G	Total
1.	1	3	3	3				3	З			3	18					
Emergency &	2	1	2	2		1/4		1	1	М	1	2	9					
Abnorma					ľ	11				11	P							
Plant Evoulution:	Tier Totals	4	5	5				4	4			5	27					
2.	1	2	2	3	3	2	3	3	2	3	2	3	28					
Plant	2	1	1	1	1	1	1	1	1	0	1	1	10					
Systems	Tier Totals	3	3	4	4	3	4	4	3	3	3	4	38					
3. Generic Abilitie	Totals 3 3 Generic Knowledge and Abilities Category					I	2	2	3	3	4			1	2	3	4	
	•				3	3	3	3	2	2	2	>	10					

1. Ensure that at least two topics from every K/A category are sampled within each tier of the RO outline (i.e., the "Tier Totals" in each K/A category shall not be less than two). Refer to Section D.1.c for additional guidance regarding SRO sampling.

2. The point total for each group and tier in the proposed outline must match that specified in the table. The final point total for each group and tier may deviate by ±1 from that specified in the table based on NRC revisions. The final RO exam must total 75 points and the SRO-only exam must total 25 points.

3. Select topics from many systems and evolutions; avoid selecting more than two K/A topics from a given system or evolution 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 (G) 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. The SRO K/As must also be linked to 10 CFR 55.43 or an SRO-level learning objective.

7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings (IR) for the applicable license level, and the point totals for each system and category. Enter the group and tier totals for each category in the table above; summarize all the SRO-only knowledge and non-A2 ability categories in the columns labeled "K" and "A". Use duplicate pages for RO and SRO-only exams.

8. For Tier 3, enter the K/A numbers, descriptions, importance ratings, and point totals on Form ES-401-3.

9. Refer to ES-401, Attachment 2, for guidance regarding the elimination of inappropriate K// NUREG-1021, Revision 9 2 2 of 34

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acility: V	. C. Sun	nmer											Da	te of	Exam			
Tier	Group	T		RC) K/A	Cate	gory	Poir	nts					L	SRO	-Only	Poin	ts
		<u>K1</u>	<u>K2</u>	<u>K3</u>	K4	K5	K6	<u> A1</u>	<u>A2</u>	<u>A3</u>	A4	G*	Iotal	<u>I K</u>	A	AZ	G*	lota
													Į	l		2	2	6
7. 	1						<u> </u>								<u> </u>	V .	. <u> </u>	0
emergency	2		ļ	;												2	2	4
Ahnorma	4		<u> </u>					 :	ļ				<u> </u>	1		<u> </u>		
Plant	Tier						5	1	1						i			
Evoulution	Totals							ł								5	5	10
									1) :						
2.	1						ļ					; . 				3	2	5
.													;			4	2	2
Plan	2													1	}			5
Systems	Tier																	
Cystoms	Totals															4	4	8
		<u> </u>												1	1			
3. Generic	: Knowl	edge	and		-	1	1	2	3	3	· 4	4		1	2	3	4	
Abiliti	es Cate	gory				,,	 - · · ·		!					 	<u> </u>	ļ		
					:				i						! ว	1	2	7
									· · · ·					J				
1. Ei outlii	nsure th ne (i.e.,	at at the "	least Tier 1	two Totals	topic s" in (s froi each	n eve K/A (ery K categ	/A ca jory s	tego hall i	ry are not b	e san e les	npled wi s than t	ithin wo).	each Refei	tier o r to S	f the ectio	RO n
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2. H	ne point	total	ior e	acn (stal f	group or ea	o and ch ai	uer i nun :	n me and t	ior m	av de	i Ouu wiate	a by	+1 from	that	sneri	ified i	su III n tha	uie
table	based	on N	RC re	Julai n Svisir	ນກຣີ	Cho fi	inal F	anu i 20 ex	iei m vam r	nust	total	75 n	oints an	id the	SR()-onh	/ exa	m
mue	t total 2	5 poir	nts	- v 131L	/10.1		a near f'			,1431		, o p					, 57,3	•••
3. S	elect tor	pics fr	om n	nanv	syste	ems a	and e	volu	tions:	avoi	d sel	ectin	g more	than	two I	K/A to	pics	from
a giv	en syst	em or	· evol	lution	i unie	ess th	iey re	late	to pla	ant-sp	pecifi	c prie	orities.				•	
4. S	ystems/	evolu	tions	withi	n ead	ch gr	oup a	are id	lentifi	ed o	n the	asso	ociated	outlir	ne.			
5. TI	ne shad	ed ar	eas a	ire no	ot ap	plical	ole to	the	categ	jory/t	ier.							
6.* 7	he gen	eric (C	3) K/,	As in	Tiers	s 1 ai	nd 2 :	shall	be s	electe	ed fro	om S	ection 2	? of the	ne K//	A Cat	alo(),	but
the t	opics m	ust be	e rele	evant	to th	e ap	plical	ole e	voluti	on oi	syst	iem.	Ine SR	O K/	As mi	ust al	SO DE	
	d to 10	CFR	55.43		an Sr	(U-le	Vei le K/A n	ami	ng oo	jectiv a brie	/e. f des	crint	ion of e	ach i	onic	the tr	onice	•
7. U	n the to	niwoii The stine	e /IB	yes, () for f	the a	nnlic	ohla i	licens	CI3, 0 20 101	a Dric vola	nd fh	ie no	int total	s for	each	syste	opica am air	hd
cate	ance i	ter th	s (int) e arc) 101 1) 101 1	ine a Ind tid	er tot	able i	ncena	ch ca		rv in	the t	able ab	ove:	summ	narize	all t	ne
SRC	gory. Ei)-onlv kr	nowle	dae a	and n	ion-A	2 ab	ilitv c	atea	ories	in the	e coli	umns	slabele	d "K"	and	"A". L	Jse	
dupi	icate pa	ges fo	or RC) and	I SRO	D-onl	y exa	ams.										
8. Fo	or Tier 3	, ente	er the	K/A	num	bers,	desc	riptic	ons, i	mpor	tance	e rati	ngs, an	d poi	nt tot	als or	n For	m
ES-4	101-3.	-				•		-	-					-				
9. R	efer to E	S-40	1, Att	tachr	nent	2, foi	r guic	lance	e rega	arding	g the	elim	ination	of ina	appro	priate	e K/A	

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Name/Safety Function	K1	K 2	K3	A1	A2	G	KA	Question Type		K/A Topic(s)	RO	SRO
Reactor Trip - Stabilization - Recovery / 1	1	0	0	0	0	0	007EK1.05	Knowledge of the operational implications of the following concepts as they apply to the EMERGENCY PLANT EVOLUTION):(CFR: 41.8 to 41.10 / 45.3)	Decay power as	a function of time	3.3	3.8
Pressurizer Vapor Space Accident / 3	0	0	0	0	0	1	008AG2.4.49	This is a Generic, no stem statement is associated.	Ability to perform procedures thos immediate oper components and	n without reference to e actions that require ation of system d controls.	4	4
Small Break LOCA / 3	0	0	0	0	0	0	009EA1.06	Ability to operate and / or monitor the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	K/A Randomly F	Rejected	3	3.3
Large Break LOCA / 3	0	1	0	0	0	0	011EK2.02	Knowledge of the interrelations between (EMERGENCY PLANT EVOLUTION) and the following:(CFR: 41.7 / 45.7 / 45.8)	Pumps		2.6	2.7
RCP Malfunctions / 4	1	0	0	0	0	0	015AK1.02	Knowledge of the operational implications of the following concepts as they apply to the (ABNORMAL PLANT EVOLUTION):(CFR: 41.8 to 41.10 / 45.3)	Consequences	of an RCPS failure	3.7	4.1
Loss of Rx Coolant Makeup / 2	0	0	0	1	0	0	022AA1.08	Ability to operate and / or monitor the following as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	VCT level		3.4	3.3
Loss of RHR System / 4	0	0	0	0	0	1	025AG2.1.32	This is a Generic, no stem statement is associated.	Ability to explain limits and preca	and apply all system utions.	3.4	3.8
Loss of Component Cooling Water / 8	0	0	0	~	0	0	026AA1.01	Ability to operate and / or monitor the following as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	CCW temperati	ure indications	3.1	3.1
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Name/Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A Topic(s)	RO	SRO
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Pressurizer Pressure Control System Malfunction / 3	1	0	0	0	0	0	027AK1.02	Knowledge of the operational implications of the following concepts as they apply to the (ABNORMAL PLANT EVOLUTION):(CFR: 41.8 to 41.10 / 45.3)	Expansion of liquids as temperature increases	2.8	3.1
ATWS/1	0	0	0	0	0	0	029EK3.04	Knowledge of the reasons for the following responses as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	K/A Randomly Rejected	3.1	3.1
Steam Gen. Tube Rupture / 3	0	0	1	0	0	0	038EK3.03	Knowledge of the reasons for the following responses as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	Automatic actions associated with high radioactivity in S/G sample lines	3.6	4
Steam Line Rupture - Excessive Heat Transfer / 4	0	1	0	0	0	0	040AK2.02	Knowledge of the interrelations between (ABNORMAL PLANT EVOLUTION) and the following:(CFR: 41.7 / 45.7 / 45.8)	Sensors and detectors	2.6	2.6
Loss of Main Feedwater / 4	0	0	1	0	0	0	054AK3.01	Knowledge of the reasons for the following responses as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	Reactor and/or turbine trip, manual and automatic	4.1	4.4
Station Blackout / 6	0	0	0	0	1	0	055EA2.05	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	When battery is approaching fully discharged	3.4	3.7
Loss of Off-site Power / 6	0	0	0	0	0	0	056AK1.03	Knowledge of the operational implications of the following concepts as they apply to the (ABNORMAL PLANT EVOLUTION):(CFR: 41.8 to 41.10 / 45.3)	K/A Randomly Rejected	3.1	3.4
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Name/Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A Topic(s)	TRO	SRO
Loss of Vital AC Inst. Bus / ອ	0	0	0	0	0	1	057AG2.4.4	This is a Generic, no stem statement is associated.	Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.	4	43
Loss of DC Power / 6	0	0	0			0	058AA2.01	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	That a loss of dc power has occurred; verification that substitute power sources have come on line	3.7	4.1
Loss of Nuclear Svc Water / 4	0	0	0	1	0	0	062AA1.07	Ability to operate and / or monitor the following as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	Flow rates to the components and systems that are serviced by the SWS; interactions among the components	2.9	3
Loss of Instrument Air / 8	0	0	1	0	0	0	065AK3.04	Knowledge of the reasons for the following responses as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	Cross-over to backup air supplies	3	3.2
LOCA Outside Containment / 3	0	0	0	0	1	0	WE04EA2.1	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	Facility conditions and selection of appropriate procedures during abnormal and emergency operations.	3.4	4.3
Loss of Emergency Coolant Recirc. / 4	0	0	0	ō	0	0	WE11EK2.1	Knowledge of the interrelations between (EMERGENCY PLANT EVOLUTION) and the following:(CFR: 41.7 / 45.7 / 45.8)	K/A Randomly Rejected	3.6	3.9
Steam Line Rupture - Excessive Heat Transfer / 4	0	1	0	0	C	0	WE12EK2.1	Knowledge of the interrelations between (EMERGENCY PLANT EVOLUTION) and the following:(CFR: 41.7 / 45.7 / 45.8)	Components and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes and automatic and manual features.	3.4	3.7

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Name/Safety Function	K 1	K2	(3 /	11	42	G	KA	Question Type	T	K/A Topic(s)	RO	SRO
Inadequate Heat	0	0	0	0	0	0	WE05EA2.1	Ability to determine and interpret the	K/A Randomly	Rejected	34	44
Secondary Heat Sink /		1						Tollowing as they apply to (EMERGENCY				ļ
4					Í			45.13)				
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Name / Safety Function	K1	KŻ	K3	A1	A2	G	KA	Question Type		K/A Topic(s)	RO	SRO
Continuous Rod Withdr	0	0	0	0	0	0	001AA2.01	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly F	Rejected	4.2	4.2
Dropped Control Rod /	1	Ō	0	0	0	0	003AK1.17	Knowledge of the operational implications of the following concepts as they apply to the (ABNORMAL PLANT EVOLUTION):(CFR: 41.8 to 41.10 / 45.3)	Fuel temperatur	e coefficient	2.9	3.1
Inoperable/Stuck Contro	0	0	0	0	1	0	005AA2.03	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	Required action stuck or inopera	s if more than one rod is ble	3.5	4.4
Emergency Boration / 1	0	0	0	0	0	1	024AG2.4.6	This is a Generic, no stem statement is associated.	Knowledge sym mitigation strate	ptom based EOP gies.	3.1	4
Pressurizer Level Malfu	0	0	0	C	0	0	028AK3.04	Knowledge of the reasons for the following responses as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	K/A Randomly I	Rejected	2.9	3
Loss of Source Range	0	0	0	C	0	0	032AA2.09	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly I	Rejected	2.5	2.9
Loss of Intermediate Ra	E O	0	0				033AK1.01	Knowledge of the operational implications of the following concepts as they apply to the (ABNORMAL PLANT EVOLUTION):(CFR: 41.8 to 41.10 / 45.3)	K/A Randomly	Rejected	2.7	3
Fuel Handling Acciden	1 0	C					036AG2.1.27	This is a Generic, no stem statement is associated.	K/A Randomly	Rejected	2.8	2.9
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Name / Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A Topic(s)	RO	SRO
Steam Generator Tube	0	0	0	0	0	0	037AA2.09	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	2.8	3.4
Loss of Condenser Vac	0	0	0		0	0	051AA1.04	Ability to operate and / or monitor the following as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	Rod position	2.5	2.5
Accidental Liquid RadV	0	0	0	0	0	0	059AA1.02	Ability to operate and / or monitor the following as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	K/A Randomly Rejected	3.3	3.4
Accidental Gaseous Ra	0	0	0	0	C) 0	060AA1.01	Ability to operate and / or monitor the following as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	K/A Randomly Rejected	2.8	3
ARM System Alarms /	7 0	0	0	0	C	0	061AA1.01	Ability to operate and / or monitor the following as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	K/A Randomly Rejected	3.6	3.6
Plant Fire On-site / 9 8	0	0	0	0			067AA1.08	Ability to operate and / or monitor the following as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	K/A Randomly Rejected	3.4	3.7
Control Room Evac. / 8	3 0	0	0				068AK3.02	Knowledge of the reasons for the following responses as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	K/A Randomly Rejected	3.7	4.1

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Name / Safety Function	K1	K2	K3	A1	A	2 G	KA	Question Type	·····	K/A Topic(s)	RO	SRO
Loss of CTMT Integrity,	0	0	0	0	C		069AK2.03	Knowledge of the interrelations between (ABNORMAL PLANT EVOLUTION) and the following:(CFR: 41.7 / 45.7 / 45.8)	K/A Randomly	Rejected	2.8	2.9
Inad. Core Cooling / 4	0	0	0	0	C		0 074EK3.04	Knowledge of the reasons for the following responses as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	K/A Randomly	Rejected	3.9	4.2
High Reactor Coolant A	0	0	0	0	C		0 076AG2.1.23	This is a Generic, no stem statement is associated.	K/A Randomly	Rejected	3.9	4
Rediagnosis / 3	0	0	0	0		5	0 WE01EK2.2	Knowledge of the interrelations between (EMERGENCY PLANT EVOLUTION) and the following:(CFR: 41.7 / 45.7 / 45.8)	K/A Randomly	Rejected	3.5	3.8
Steam Generator Over-	0	1	0	C		0	0 WE13EK2.2	Knowledge of the interrelations between (EMERGENCY PLANT EVOLUTION) and the following:(CFR: 41.7 / 45.7 / 45.8)	Facility's heat r primary coolan decay heat ren between the pr systems to the	emoval systems, including t, emergency coolant, the toval systems and relations oper operation of these operation of the facility.	3.0	3.2
Containment Flooding /	0	0	1	C		D	0 WE15EK3.3	Knowledge of the reasons for the following responses as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	Manipulation o desired operati and emergenc	controls required to obtain ng results during abnormal y situations.	2.9	2.9
High Containment Rad	i 0	0	0			0	0 WE16EA1.2	Ability to operate and / or monitor the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	K/A Randomly	Rejected	2.9	3.0
SI Termination / 3	0) (5	0	0 WE02EA1.2	Ability to operate and / or monitor the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	K/A Randomly	Rejected	3.6	3.8

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Name / Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A Topic(s)	RO	SRO
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LOCA Cooldown - Depi	0	0	0	0	0	0	WE03EK3.3	Knowledge of the reasons for the following responses as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	K/A Randomly Rejected	3.9	3.9
Natural Circ. / 4	0	0	0	0	0	1	WE09EG2.4.4	This is a Generic, no stern statement is associated.	Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.	4	4
Natural Circ. With Sean	0	1	0	0	0	0	WE10EK2.2	Knowledge of the interrelations between (EMERGENCY PLANT EVOLUTION) and the following:(CFR: 41.7 / 45.7 / 45.8)	Facility's heat removal systems, including primary coolant, emergency coolant, the decay heat removal systems and relations between the proper operation of these systems to the operation of the facility.	3.6	3.9
RCS Overcooling - P⊤S	0	0	0	0	0	0	WE08EK1.3	Knowledge of the operational implications of the following concepts as they apply to the EMERGENCY PLANT EVOLUTION):(CFR: 41.8 to 41.10 / 45.3)	K/A Randomly Rejected	3.5	4.0
Degraded Core Cooling	0	0	0	0	0	0	WE06EA2.2	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	3.5	4.1
Saturated Core Cooling	0	0	1	0	0	0	WE07EK3.2	Knowledge of the reasons for the following responses as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	Normal, abnormal and emergency operating procedures associated with (Saturated Core Cooling).	3.2	3.7
Loss of CTMT Integrity.	0	0	0	0	0	0	WE14EK3.4	Knowledge of the reasons for the following responses as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	K/A Randomly Rejected	3.3	3.6

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Name / Safety Function K1 K2 K3 A1 A2 G	KA	Question Type	K/A Topic(s)	ROSRO
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Reactor Coolant Pump	0	0	0			0	0	0	0	0	1	0	Ability to manually operate and/or monitor in the control room:(CFR: 41.7 / 45.5 to 45.8)	Seal injection	003A4.01	3.3	3.2
Chemical and Volume Control	0	0	0	C)	0	0	0	0	0	0	1	This is a Generic, no stem statement is associated.	Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.	004GG2.4.49	4.0	4.0
Residual Heat Removal	0	0	0	(5	0	1	0	0	0	0	0	Knowledge of the effect that a loss or malfunction of the following will have on the (SYSTEM):(CFR: 41.7 / 45.7)	RHR heat exchanger	005K6.03	2.5	2,6
Emergency Core Cooling	0	0	0		1	0	0	0	0	0	0	0	Knowledge of (SYSTEM) design feature(s) and or interlock(s) which provide for the following:(CFR: 41.7)	Reset of SIS	006K4.11	3.9	4.2
Pressurizer Relief/Quench Tank	0	0	0		0	0	0	0		0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	Exceeding PRT high-pressure limits	007A2.05	3.2	3.6
Component Cooling Water	0	0	0)	0	0	0	0			0	Ō	Ability to monitor automatic operations of the (SYSTEM) including:(CFR: 41.7 / 45.5)	Typical CCW pump operating conditions, including vibra- tion and sound levels and motor current	008A3.06	2.5	2.5
Pressurizer Pressure Control	C			0	0	0	0	C				1	This is a Generic, no stem statement is associated.	Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.	010GG2.4.4	4.0	4.3
Reactor Protection			1	0	0	0) (Knowledge of electrical power supplies	RPS channels, components and	012K2.01	3.3	3.7

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Name / Safety Functio	K1	K2	КЗ	K4	K	5 K	6 A	14	42	A3	A4	G	Question Type	K/A Topic(s)	КА	RO	SRO
							ļ						to the following:(CFR: 41.7)	interconnections			
Engineered Safety Features Actuation	1	0	0	0	0	0		0	0	0	0	-0	Knowledge of the physical connections and/or cause-effect relationships between (SYSTEM) and the following:(CFR: 41.2 to 41.9 / 45.7 to 45.8)	ECCS	013K1.06	4.2	4.4
Containment Cooling	0	0	0	0	C)	1	0	0	0	0	Ability to predict and/or monitor changes in parameters associated with operating the (SYSTEM) controls including:(CFR: 41.5 / 45.5)	Cooling water flow	022A1.04	3.2	3.3
Ice Condenser	0	0	0	0) (<u>)</u>	0	0	0	0	0		K/A Rejected	025A4.02	p D	0
Containment Spray	0	0	1	0) (5	0	0	0	0	0	Knowledge of the effect that a loss or malfunction of the (SYSTEM) will have on the following:(CFR: 41.7 / 45.6)	Recirculation spray system	026K3.02	4.2	4.3
Main and Reheat Steam	C	0	0	C		0	0	1	0	0	0	0	Ability to predict and/or monitor changes in parameters associated with operating the (SYSTEM) controls including:(CFR: 41.5 / 45.5)	Air ejector PRM	039A1.10	2.9	3.0
Main Feedwater	0) C	C			0	0	0	0	0	0	1	This is a Generic, no stem statement is associated.	Ability to perform specific system and integrated plant procedures during all modes of plant operation.	059GG2.1.23	3.9	4.0
Auxiliary/Emergency Feedwater	, (5 (D	1	0	0	0	0	0	0	Knowledge of the operational implications of the following concepts as they apply to the (SYSTEM):(CFR: 41.5 45.7)	Pump head effects when control valve is shut	061K5.03	2.6	2.9
AC Electrical		0 (0	0	0	0	1	0	0		Ability to (a) predict the impacts of the	Keeping the safeguards buses	062A2.06	3.4	3.9
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Name / Safety Functio	K1	K2	K3	K4	K5	K	A	A	A	A4	G	Question Type	K/A Topic(s)	КА	RO	SRO
Distribution								All states in the Arman Street States and a state of the				following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	electrically separate			
DC Electrical Distribution	0	0	0	T	0	Ō	0	0	0	0	σ	Knowledge of (SYSTEM) design feature(s) and or interlock(s) which provide for the following:(CFR: 41.7)	Manual/automatic transfers of control	063K4.01	2.7	3.0
Emergency Diesel Generator	0	0	0	0	0	1	0	0	0	0	0	Knowledge of the effect that a loss or malfunction of the following will have on the (SYSTEM):(CFR: 41.7 / 45.7)	Fuel oil storage tanks	064K6.08	3.2	3.3
Process Radiation Monitoring	0	0	0	0	1	0	0	0 0	0	0	0	Knowledge of the operational implications of the following concepts as they apply to the (SYSTEM):(CFR: 41.5 / 45.7)	Relationship between radiation intensity and exposure limits	073K5.03	2.9	3.4
Service Water	0	0	0	0	0	0	1	0	0	0	0	Ability to predict and/or monitor changes in parameters associated with operating the (SYSTEM) controls including:(CFR: 41.5 / 45.5)	Reactor and turbine building closed cooling water temperatures.	076A1.02	2.6	2.6
Instrument Air	0	0	0	1	0	0			0	0	0	Knowledge of (SYSTEM) design feature(s) and or interlock(s) which provide for the following:(CFR: 41.7)	Manual/automatic transfers of control	078K4.01	2.7	2.9
Containment	Ō		1	C						0	0	Knowledge of the effect that a loss or malfunction of the (SYSTEM) will have on the following:(CFR: 41.7 / 45.6)	Loss of containment integrity under normal operations	103K3.02	3.8	4.2
Containment Spray	0	1	C) ; (5		C	0	Ö	Knowledge of electrical power supplies to the following:(CFR: 41.7)	MOVs	026K2.02	2.7	2.9
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Name / Safety Functio	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	Question Type	K/A Topic(s)	KA	RO	SRO
Containment Cooling	0	0	1	0	0	0	0	0	0	0	0	Knowledge of the effect that a loss or malfunction of the (SYSTEM) will have on the following:(CFR: 41.7 / 45.6)	Containment instrumentation readings	022K3.02	3.0	3.3
Reactor Protection	0	0	0	0	0	0	0	0	0	1	0	Ability to manually operate and/or monitor in the control room:(CFR: 41.7 / 45.5 to 45.8)	Channel blocks and bypasses	012A4.03	3.6	3.6
Emergency Diesel Generator	0	0	0	0	0	1	0	0	0	0	0	Knowledge of the effect that a loss or malfunction of the following will have on the (SYSTEM):(CFR: 41.7 / 45.7)	Air receivers	064K6.07	2.7	2.9
Pressurizer Relief/Quench Tank	1	0	0	0	0	0	0	0	0	0	0	Knowledge of the physical connections and/or cause-effect relationships between (SYSTEM) and the following:(CFR: 41.2 to 41.9 / 45.7 to 45.8)	Containment system	007K1.01	2.9	3.1
AC Electrical Distribution	0	0	0	0	0	0	0	0	1	0	0	Ability to monitor automatic operations of the (SYSTEM) including:(CFR: 41.7 / 45.5)	Operation of inverter (e.g. precharging synchronizing light, static transfer)	062A3.04	2.7	2.9
Service Water	Ō	0	0	0	0	0	0	0	1	0	0	Ability to monitor automatic operations of the (SYSTEM) including:(CFR: 41.7 / 45.5)	Emergency heat loads	076A3.02	3.7	3.7

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Hydrogen Recombiner and Purge Control	Ō	C			0	0	0	0	0	Ō	0	0	Ability to manually operate and/or monitor in the control room:(CFR: 41.7 / 45.5 to 45.8)	K/A Randomly Rejected	028A4.02	3.7	3.9
Containment Purge	0	10			0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	029GG2.1.28	3.2	3.3
Spent Fuel Pool Cooling	0	C			0	0	0	0	0	0	0	0	Knowledge of electrical power supplies to the following:(CFR: 41.7)	K/A Randomly Rejected	033K2	0	0
Fuel Handling Equipment				D	0	0	0	1	0	0	0	0	Ability to predict and/or monitor changes in parameters associated with operating the (SYSTEM) controls including:(CFR: 41.5 / 45.5)	Water level in the refueling canal	034A1.02	2.9	3.7
Steam Generator			5	0	0	0	1	0	0	0	0	0	Knowledge of the effect that a loss or malfunction of the following will have on the (SYSTEM):(CFR: 41.7 / 45.7)	Secondary PORV	035K6.02	3.1	3.5
Steam Dump/Turbine Bypass Control			5	Ō	0	0	0		0	0	0	0	Ability to monitor automatic operations of the (SYSTEM) including:(CFR: 41.7 / 45.5)	K/A Randomly Rejected	041A3.02	3.3	3.4
Main Turbine Generator			D	0	0	1	0		C		0	Ō	Knowledge of the operational implications of the following concepts as they apply to the (SYSTEM):(CFR: 41.5 / 45.7)	Relationship between moderator temperature coefficient and boron concentration in RCS as T/G load increases	045K5.17	2.5	2.7
Condenser Air Removal			0	0	0	0	- C					C	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	055A2	0	0

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Name / Safety Functio	K1	K2	K3	K4	K5	K6	A1	A 2	A3	A4	G	Question Type	K/A Topic(s)		KA	RO	SRO
Liquid Kadwaste	U	Ú	U	U	U	U	U		U	U	U	Ability to manually operate and/or monitor in the control room:(CFR: 41.7 / 45.5 to 45.8)	K/A Randomly Rejected		068A4.04	3.8	3.7
Waste Gas Disposal	0	0	1	0	0	0	0	0	0	0	0	Knowledge of the effect that a loss or malfunction of the (SYSTEM) will have on the following:(CFR: 41.7 / 45.6)	ARM and PRM systems		071K3.05	3.2	3.2
Area Radiation Monitoring	0	0	0	1	0	0	0	0	0	0	0	Knowledge of (SYSTEM) design feature(s) and or interlock(s) which provide for the following:(CFR: 41.7)	Plant ventilation systems		072K4.03	3.2	3.6
Circulating Water	0	1	0	0	0	0	0	0	0	0	0	Knowledge of electrical power supplies to the following:(CFR: 41.7)	Emergency/essential SWS p	oumps	075K2.03	2.6	2.7
Station Air	Ō	0	0	0	0	Ō	0	0	0	0	0	Ability to monitor automatic operations of the (SYSTEM) including:(CFR: 41.7 / 45.5)	K/A Randomly Rejected		079A3	0	0
Fire Protection	0	0	0	0	0		0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected		086A2.01	2.9	3.1
Control Rod Drive	C	0	C			Ő			0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	Loss of CCW to CRDS		001A2.08	2.9	3.3

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Name / Safety Functio	K1	K2	K3	K ⁄	1 K	5 K	6 A	1A	2 4	43	44	G	Question Type	K/A Topic(s)	KA	RO	SRO
Reactor Coolant	0	0	0	0	0				0	0	1	0	Ability to manually operate and/or monitor in the control room:(CFR: 41.7 / 45.5 to 45.8)	Safety parameter display systems	002A4.08	3.4	3.7
Pressurizer Level Control	0	0	O	0	C			0	0	0	0	0	Ability to monitor automatic operations of the (SYSTEM) including:(CFR: 41.7 / 45.5)	K/A Randomly Rejected	011A3.01	2.8	2.8
Rod Position Indication	0	0	0	0	Ċ	C		ס	Ö	0	0	0	Knowledge of the operational implications of the following concepts as they apply to the (SYSTEM):(CFR: 41.5 / 45.7)	K/A Randomly Rejected	014K5.02	2.8	3.3
Nuclear Instrumentation	0	0	0	0	C			0	0	0	0	0	Knowledge of (SYSTEM) design feature(s) and or interlock(s) which provide for the following:(CFR: 41.7)	K/A Randomly Rejected	015K4.10	3.2	3.5
Non-nuclear Instrumentation	0	Ō	0	C				0	0	0	0	0	Knowledge of the operational implications of the following concepts as they apply to the (SYSTEM):(CFR: 41.5 / 45.7)	K/A Randomly Rejected	016K5.01	2.7	2.8
In-core Temperature Monitor	1	0	0	C			5	0	0	0	0	0	Knowledge of the physical connections and/or cause-effect relationships between (SYSTEM) and the following:(CFR: 41.2 to 41.9 / 45.7 to 45.8)	Plant computer	017K1.01	3.2	3.2
Containment lodine Removal	0	0		Ĩ			þ	o	0	0	0	0	Ability to predict and/or monitor changes in parameters associated with operating the (SYSTEM) controls including:(CFR: 41.5 / 45.5)	K/A Randomly Rejected	027A1	0	0
Condensate	C	0	C					0	0	0	0	1	This is a Generic, no stem statement is associated.	Knowledge of the purpose and function of major system components and controls.	056G2.1.28	3.2	3.3

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Name/Safety Function	K1	K2	K3	A	1/	Ä2{	G	KA	Question Type	K/A Topic(s)	RO	SRO
Reactor Trip - Stabilization - Recovery / 1	Ū	Ū				1	0	007EA2.01	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	Decreasing power level from available indications	4.1	4.3
Pressurizer Vapor Space Accident / 3	0	Ō	0		o T	0	0	008AA2.01	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	3.9	4.2
Small Break LOCA / 3	0	0	0			0	1	009EG2.4.30	This is a Generic, no støm statement is associated.	Knowledge of which events related to system operations/status should be reported to outside agencies.	2.2	3.6
Large Break LOCA / 3	0	0	0			Ó	Ő	011EG2.2.25	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	2.5	3.7
RCP Malfunctions / 4	0	0	0		0	0	0	015AG2.1.32	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.4	3.8
Loss of Rx Coolant Makeup / 2	0	0	C		0	0	1	022AG2.4.49	This is a Generic, no stem statement is associated.	Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.	4	4
Loss of RHR System / 4	0	0	C		0	0	0	025AG2.4.49	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	4	4
Loss of Component Cooling Water / 8	0	0			0	0	0	026AA2.05	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	2.4	2.5

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Name/Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A Topic(s)	RO	SRO
Pressurizer Pressure Control System Malfunction / 3	Ũ	Ū	Ō	n	0	0	027AA2.14	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	2.8	2.9
ATWS / 1	0	0	0	0	0	Ō	029EG2.1.32	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.4	3.8
Steam Gen. Tube Rupture / 3	0	0	0	0	0	0	038EG2.4.1	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.3	3.3
Steam Line Rupture - Excessive Heat Transfer / 4	0	0	0	0	0	0	040AA2.05	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	4.1	4.5
Loss of Main Feedwater / 4	0	0	0	0	1	0	054AA2.03	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	Conditions and reasons for AFW pump startup	4.1	4.2
Station Blackout / 6	0	0	0	0	0	0	055EG2.4.6	This is a Generic, no stern statement is associated.	K/A Randomly Rejected	3.1	4
Loss of Off-site Power / 6	0	0	0	0	D	0	056AG2.1.33	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.4	4
Loss of Vital AC Inst. Bus / 6	0	0	0	0	0		057AG2.4.30	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	2.2	3.6
Loss of DC Power / 6	0	0	0	0	0	C	058AA2.03	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	3.5	3.9

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Name/Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type		(A Topic(s)	RO	SRO
Loss of Nuclear Svc Water / 4	0	0	0	0	0	0	062AG2.2.22	This is a Generic, no stem statement is associated.	K/A Randomly Re	ajected	3.4	4.1
Loss of Instrument Air / 8	D	0	0	0	0	0	065AA2.03	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Re	ejected	2.6	2.9
LOCA Outside Containment / 3	0	0	0	0	0	0	WE04EA2.1	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Re	jected	3.4	4.3
Loss of Emergency Coolant Recirc. / 4	0	0	0	0	0	0	WE11EA2.1	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Re	jected	3.4	4.2
Steam Line Rupture - Excessive Heat Transfer / 4	0	0	0	0	0	1	WE12EG2.4.4	This is a Generic, no stem statement is associated.	Ability to recogniz for system operat are entry-level co and abnormal op	e abnormal indications ng parameters which nditions for emergency erating procedures.	4	4.3
Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4	0	0	0	0	1	0	WE05EA2.1	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	Facility conditions appropriate proce and emergency o	and selection of dures during abnormal perations.	3.4	4.4

Name / Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A		SRO
Continuous Rod Withdr	0	0	0	0	0	0	001AA2.01	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejec	ted 4.2	4.2
Dropped Control Rod 7	0	0	0	0	0	0	003AA2.01	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejec	ted 3.7	3.9
Inoperable/Stuck Contri	0	0	0	0	0	0	005AA2.01	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejec	ted 3.3	4.1
Emergency Boration / 1	0	0	0	0	0	0	024AG2.4.1	This is a Generic, no stem statement is associated.	K/A Randomly Rejec	ted 3.3	3.3
Pressurizer Level Malfu	0	0	0	0	0	0	028AA2.14	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejec	ted 2.6	2.8
Loss of Source Range I	0	0	0	0	1	0	032AA2.08	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	Testing required if po restored	wer lost, then 2.2	3.1
Loss of Intermediate Re	0	0	0	0	0	0	033AA2.13	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejec	ted 2.2	2.8
Fuel Handling Accident	0	0	0	0		0	036AG2.1.32	This is a Generic, no stem statement is associated.	K/A Randomly Rejec	ted 3.4	3.8
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Name / Safety Function	K1	K2	K3	A1	A 2	G	KA	Question Type	K/A Topic(s)	RO	SRO
Steam Generator Tube	0	0	0	0	0	0	037AG2.4.4	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	4	4.3
Loss of Condenser Vac	0	0	0	0	0	0	051AA2.02	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	3.9	4.1
Accidental Liquid RadW	0	Ó	0	0	0	0	059AG2.2.25	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	2.5	3.7
Accidental Gaseous Ra	0	0	0	0	0	0	060AA2.04	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	2.6	3.4
ARM System Alarms / 7	0	0	0	0	0	0	061AA2.06	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	3.2	4.1
Plant Fire On-site / 9 8	0	0	0	0	0	0	067AG2.4.30	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	2.2	3.6
Control Room Evac. / 8	0	0	0	0	0	0	068AG2.2.22	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.4	4.1
Loss of CTMT Integrity	. 0	0	0		0		069AA2.01	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	3.7	4.3
Inad. Core Cooling / 4	0	0	0	C	0		074EG2.1.32	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.4	3.8

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Name / Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A Topic(s)	RO	SRO
				ļ						1	1
High Reactor Coolant A	0	0	0	0	0	0	076AG2.1.32	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.4	3.8
Rediagnosis /3	0	0	0	0	0	0	WE01EA2.1	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	3.2	4
Steam Generator Over-	0	0	0	0	0	1	WE13EG2.2.2!	This is a Generic, no stem statement is associated.	Knowledge of bases in technical specifications for irriting conditions for operations and safety limits.	2.5	3.7
Containment Flooding /	0	Ö	0	0	0	0	WE15EG2.1.3	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.4	4
High Containment Radi	0	0	0	0	0	0	WE16EG2.1.32	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.4	3.8
SI Termination / 3	0	0	0	0	. 0	1	WE02EG2.4.3(This is a Generic, no stem statement is associated.	Knowledge of which events related to system operations/status should be reported to outside agencies.	2.2	3.6
LOCA Cooldown - Depi	0	0	0	0	0	0	WE03EA2.1	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	3.4	4.2
Natural Circ. / 4	0	0	0	C	1	a	WE09EA2.2	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments.	3.4	3.8
Natural Circ, With Sean	0	0	0		0		WE10EG2.2.22	This is a Generic, no stem statement is	K/A Randomly Rejected	3.4	4.1

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Name / Safety Function	K 1	K2	K3	A1	A2	G	KA	Question Type		(A Topic(s)	RO	SRO
								associated.				
RCS Overcooling - PTS	0	0	0	0	0	0	WE08EA2.1	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Re	jected	3.4	4.2
Degraded Core Cooling	0	0	0	0	0	0	WE06EA2.2	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Re	jected	3.5	4.1
Saturated Core Cooling	0	0	0	0	0	0	WE07EG2.4.6	This is a Generic, no stem statement is associated.	K/A Randomly Re	jected	3.1	4
Loss of CTMT Integrity .	0	0	0	0	0	0	WE14EA2.1	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Re	jected	3.3	3.8

Name / Safety Functio	K1	K2	K3	K4	I K	5 Ke	3 A1	A I	2 A3	A4	G	Question Type	K/A Topic(s)	КА	IRO	RPO
Reactor Coolant Pump	0		0	0	0	0	0		0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	Problems associated with RCP motors, including faulty motors and current, winding and bearing temperature problems	003A2.03	2.7	3.1
Chemical and Volume Control	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	004A2.06	4.2	4.3
Residual Heat Removal	0	0	0	0	0	0	0	ο	0	0	1	This is a Generic, no stem statement is associated.	Knowledge of system purpose and or function.	005G2.1.27	2.8	2.9
Emergency Core Cooling	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	006A2.08	3.0	3.3
Pressurizer Relief/Quench Tank	0	0	0	0	0		0	1	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	Overpressurization of the PZR	007A2.03	3.6	3.9
Component Cooling Water	0	0	0	0	0	0	0	1	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b)	PRMS alarm	008A2.04	3.3	3.5

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Name / Safety Function	K1	K2	2 K3	K4	K5	K	A1	A	2 A3	A	G	Question Type	K/A Topic(s)	KA	RO	SRO
												based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)				
Pressurizer Pressure Control	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	010A2.01	3.3	3.6
Reactor Protection	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	012GG2.1.32	3.4	3.8
Engineered Safety Features Actuation	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	013GG2.4.4	4.0	4.3
Containment Cooling	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	022GG2.1,2	3.0	4.0
ice Condenser	0	0	0	0	0	0	0	0	0	0	0		K/A Rejected	025GG2.1.23	0	0
Containment Spray	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	026GG2.4.49	4.0	4.0
Main and Reheat Steam	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	039A2.03	3,4	3.7

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		(*C × 11)	1]]				+	-
Main Feedwater	0	0	0	(5	D	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	059GG2.1.2	3.0	4.0
Auxiliary/Emergency Feedwater	0		0			D	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	061A2.04	3.1	3.4
AC Electrical Distribution	0	0	Ō				0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	062GG2.1.32	3.4	3.8
DC Electrical Distribution	0	0	0				0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	063A2.01	2.5	3.2
Emergency Diesel Generator	0	0	0			D	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	064A2.14	2.7	2.9
Process Radiation Monitoring	0	0	0				0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those	K/A Randomly Rejected	073A2.02	2.7	3.2

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Name / Safety Function	> K	1! K	2 K	3 K	4 K	5 1	(6)	A1	A2	A3	A4	G	Question Type	K/A Topic(s)		КА	IRO	8PO
													abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)					
Service Water	0						ō	0	0	0	0	Ō	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected		076A2.01	3.5	3.7
Instrument Air	0		0				0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected		078A2	0	0
Containment	0	0	0	Q	C		0	0	0	0	0	1	This is a Generic, no stem statement is associated.	Ability to locate and operate components, including local	controls.	103GG2.1.30	3.9	3.4
Emergency Diesel Generator	0	0	0	0	C		5	0	0	0	0	ō	This is a Generic, no stem statement is associated.	K/A Randomly Rejected		064GG2.4.50	3.3	3.3

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Name / Safety Functio	K1	K2	КЗ	K4	K	KE	À A	1/42	A3	A 4	G	Question Type	K/A Topic(s)	KA	RO	SRO
Control Rod Drive	0	0	0	0	0			0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	001GG2.4.49	4.0	4.0
Reactor Coolant	0	0	0	0	0	0	O	1	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	Loss of heat sinks	002A2.04	4.3	4.6
Pressurizer Level Control	0	0	0	0	0	0	0	0	0	0	Ō	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	011GG2.4.31	3.3	3.4
Rod Position Indication	0	0	0	0	0	0	C	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	014GG2.4.49	4.0	4.0
Nuclear Instrumentation	Ō	0	0	0	Ö	0	C	0	Ō	0	Ō	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	015GG2.1.30	3.9	3.4
Non-nuclear Instrumentation	0	0	0	0	0	0	C	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	016GG2.4.49	4.0	4.0
In-core Temperature Monitor	0	0	0	0	0	0	C	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	017GG2.1.30	3.9	3.4
Containment lodine Removal	0		0	0	0	0			0	0	σ	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	027A2.01	3.0	3.3

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Name / Safety Functio	K1	K	2 K	K	4 K	51	K6	A1	AZ	A3	A4	G	Question Type	K/A Topic(s)	KA	RO	SRO
Hydrogen Recombiner and Purge Control	0	0	0				0	0	0	0	0	0	This is a Generic, no stern statement is associated.	K/A Randomly Rejected	028GG2.1.33	3.4	4.0
Containment Purge	0	0	0				0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	029GG2.2.22	3.4	4.1
Spent Fuel Pool Cooling	0	0	0	(,	5	0	0	0	0	0	0	This is a Generic, no stern statement is associated.	K/A Randomly Rejected	033GG2.4.49	4.0	4.0
Fuel Handling Equipment	0	0	0	6	$\frac{1}{2}$		0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	034GG2.2.25	2.5	3.7
Steam Generator	0	Ö	Ō	(0	Ō	0	0	0	0	1	This is a Generic, no stem statement is associated.	Knowledge of annunciators alarms and indications and use of the response instructions.	035GG2.4.31	3.3	3.4
Steam Dump/Turbine Bypass Control	0	0	0			0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	041A2.02	3.6	3.9
Main Turbine Generator	0	0	0		5	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	045GG2.4.30	2.2	3.6
Condenser Air Removal	0					0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	055A2	0	0
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Name / Safety Functio	K1	K	2 K	3 K	4	{5]	K 8	A1	Á2	A3	A4	G	Question Type	K/A Topic(s)		KA	RO	SRO
Liquid Radwaste	0	0	0		D	0	0	0	0	0	0	1	This is a Generic, no stem statement is associated.	Ability to locate and operate components, including local	controls.	068G2.1.30	3.9	3.4
Waste Gas Disposal	0	0	Ō		0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected		071GG2.1.27	2.8	2.9
Area Radiation Monitoring	0	C			0	0	0	0	Ō	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected		072GG2.1.2	3.0	4.0
Circulating Water	C	: C 			0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected		075GG2.1.30	3.9	3.4
Station Air	C			D	0	0	0	0		0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected		079A2.01	2.9	3.2
Fire Protection				0	0	0	0	0	ne	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected		086A2.04	3.3	3.9
Condensate		0	0	0	0	0	0	C					Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected		056A2.04	2.6	2.8
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Name / Safety Functio K1 K2 K3 K4 K5 K6 A1A2 A3 A4 G	Question Type	K/A Topic(s)	KA RO SRO
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Tier 3

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<u>62.1.7</u>	Ability to evaluate plant performance and make operational judgments based on operating ch THIS KIA RANDOMLY REJECTED @	3:7	44
G2.1.17	Ability to make accurate, clear and concise verbal reports.	3.5	3.6
G2.1.29	Knowledge of how to conduct and verify valve lineups.	3.4	3.3
G2.2.25	Knowledge of bases in technical specifications for limiting conditions for operations and safe	2.5	3.7
G2.2.28	Knowledge of new and spent fuel movement procedures.	2.6	3.5
G2.2.11	Knowledge of the process for controlling temporary changes.	2.5	3.4
G2.3.1	Knowledge of 10 CFR: 20 and related facility radiation control requirements.	2.6	3
G2.3.10	Ability to perform procedures to reduce excessive levels of radiation and guard against persor	2.9	3.3
G2.4.32	Knowledge of operator response to loss of all annunciators.	3.3	3.5
G2.4.15	Knowledge of communications procedures associated with EOP implementation.	3	3.5
	32.1.7 32.1.17 32.1.17 G2.1.29 G2.2.25 G2.2.28 G2.2.11 G2.3.1 G2.3.10 G2.4.32 G2.4.15	32.1.7 THIS K/A RANDOMLY RESCEPTED 32.1.17 Ability to make accurate, clear and concise verbal reports. 32.1.29 Knowledge of how to conduct and verify valve lineups. G2.2.25 Knowledge of bases in technical specifications for limiting conditions for operations and safe. G2.2.28 Knowledge of new and spent fuel movement procedures. G2.2.11 Knowledge of the process for controlling temporary changes. G2.3.1 Knowledge of 10 CFR: 20 and related facility radiation control requirements. G2.3.10 Ability to perform procedures to reduce excessive levels of radiation and guard against persor G2.4.32 Knowledge of communications procedures associated with EOP implementation	32.1.7 THIS K/A RANDOMLY RESCEPTED 3.5 32.1.7 Ability to make accurate, clear and concise verbal reports. 3.5 32.1.7 Ability to make accurate, clear and concise verbal reports. 3.4 32.1.29 Knowledge of how to conduct and verify valve lineups. 3.4 32.2.25 Knowledge of bases in technical specifications for limiting conditions for operations and safe: 2.5 G2.2.28 Knowledge of new and spent fuel movement procedures. 2.6 G2.2.11 Knowledge of the process for controlling temporary changes. 2.5 G2.3.10 Ability to perform procedures to reduce excessive levels of radiation and guard against persor 2.9 G2.4.32 Knowledge of communications procedures associated with EOP implementation. 3

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Tier 3

Group	KA	Торіс	RO	SRO
Conduct of Operations	G2.1.34	Ability to maintain primary and secondary plant chemistry within allowable limits.	2.3	2.9
Conduct of Operations	G2.1.13	Knowledge of facility requirements for controlling vital / controlled access.	2	2.9
Equipment Control	G2.2.20	Knowledge of the process for managing troubleshooting activitics.	2.2	3.3
Equipment Control	G2.2.7	Knowledge of the process for conducting tests or experiments not described in the safety analy	2	3.2
Radiation Control	G2.3.2	Knowledge of facility ALARA program.	2.5	2.9
Emergency Procedures/Plan	G2.4.33	Knowledge of the process used track inoperable alarms.	2.4	2.8
Emergency Procedures/Plan	G2.4.38	Ability to take actions called for in the facility emergency plan, including (if required), suppo	2.2	4

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Administrative Topics Outline

Form ES-301-1

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Facility: V.C. Summer		Date of Examination:	12/12/05	
Examination Level (circle one): RO (SRO) Oper			Operating Test Number:	2005-301
Administrative Topic (see Note)	Type Code*		Describe activity to be performe	əd
Conduct of Operations	(N)	SRO Only (K/A G2.1 Given shif would viol that would (See attac	– (CO1) Determine Overtime Availability .4; 3.4) t rotation schedule for the last two weeks, ate OT restrictions if called in. Also iden be violated. hed for ideas.)	/. identify operators that itify the OT restriction
Conduct of Operations	(N)	(CO3) Calculate the Maximum allowable head venting time per EOP-18.3 Step 17 and Attachment 2. The following conditions exist: RB pressure is psig. RB Temperature is 140°F. H ₂ Concentration is 1.8%. RCS Pressu is 290 psig. (K/A G2.1.25; 2.8/3.1)		
Equipment Control	(D)	SRO Only – (EC1) Review work package for SFP HEX 'A'; JPA-001 (K/A G2.2.13; 3.6/3.8)		HEX 'A'; JPA-001
Radiation Control	(N)	(RC1) Perform a Shielding Calculation (K/A G2.3.2; 2.5/2.9) (See attached)		2; 2.5/2.9)
Emergency Plan	(D)	SRO Only	- (EP1) Classification of an Emergency	Event
NOTE: All items (5 total) only the administ	are require rative topics	d for SROs. s, when all 5	RO applicants require only 4 items unle are required.	ess they are retaking
 * Type Codes & Criteria: (C)ontrol room (D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes) (N)ew or (M)odified from bank (≥ 1) (P)revious 2 exams (≤ 1; randomly selected) (S)imulator 				

Administrative Topics Outline

Form ES-301-1

DRAFT

Facility: V.C. Summer		Date of Examination:	12/12/05	
Examination Level (circle	e one):	RO SRO	Operating Test Number:	2005-301
Administrative Topic (see Note)	Type Code*	Describe activity to be performed		
Conduct of Operations	(N)	RO Only – (CO2) Perform RCS leak rate calculation with plant in Mode 4 per STF 114.002 (K/A G2.1.7; 3.7/4.4)		ith plant in Mode 4 per STP-
Conduct of Operations	(N)	(CO3) Calculate the Maximum allowable head venting time per EOP-18.2 Step 1 and Attachment 2. The following conditions exist: RB pressure is 9 psig. RB Temperature is 140°F. H_2 Concentration is 1.8%. RCS Pressure is 290 psig. (K/A G2.1.25; 2.8/3.1)		
Equipment Control	(N)	RO Only – (EC2) Construct a tagout for SFP HEX 'A' (Construct the tagout without the use of pre-written tagouts or computerized tagging system) (K/A G2.2.13; 2.8/3.1)		
Radiation Control	(N)	(RC1) Perform a Shielding Calculation (K/A G2.3.2; 2.5/2.9) (See attached)		
Emergency Plan				
NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when all 5 are required.				
 * Type Codes & Criteria: (C)ontrol room (D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes) (N)ew or (M)odified from bank (≥ 1) (P)revious 2 exams (≤ 1; randomly selected) (S)imulator 				

A

Control Room/In-Plant Systems Outline

DRAFT

Form ES-301-2

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Facility:V.C. SummerDate of Examination:12/12-12/15/05Exam Level (circle one):RO / SRO-I / SRO-UOperating Test No.:2005-301				
Control Room Systems [®] (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)				
System / JPM Title	Type Code*	Safety Function		
a. Start and load Diesel Generator "A" from the control room in the test start mode per SOP-306.16A, starting at step 2.2.i. (At step 2.5.b, the D/G will over speed requiring an emergency STOP.) (K/A 062A1.01; 3.4/3.8)	(N) (S) (A)	6		
 JPSF-059, Alternate Isolation of Rutured S/G ('C' MSIV) (K/A 038EA1.32; 4.6/4.7) 	(D) (S) (A)	3		
c. JPSF-012, Dropped Rod Recovery. When Rod F2 is withdrawn to the 30 step position, the rod stops moving (stuck). When the ROD CNTRL BANK SEL switch is taken to manual per AOP- 403.5, rods F2 and another rod within the same group drop requiring a manual trip. (K/A 003AA1.02; 3.6/3.4)	(M) (S) (A)	1		
 d. Secure Normal letdown per SOP-102 Section IV Part N and place Excess Letdown in service to the RCDT per SOP-102 Section IV Part C. (K/A 004A2.07; 3.4/3.7) 	(N) (S)	2		
e. JPS-068, Shift Component Cooling Water Trains. (K/A 008A4.01; 3.3/3.1)	(D) (S)	8		
f. JPSF-083, Respond to Loss of Secondary Heat Sink. (K/A W/E05EA1.1; 4.1/4.0)	(D) (S) (A)	4S		
g. JPSF-062, Respond to RHR Pump Vortexing. (K/A 025AA2.07; 3.4/3.7)	(D) (S) (A) (L)	4P		
h. Respond to a Source Range Nuclear Instrument Malfunction (MODE 6 refueling activities in progress)	(N) (S) (L)	7		
In-Plant Systems [®] (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)				
i. JPP-055, Locally Start the Turbine Driven Emergency Feedwater Pump per FEP-4.0 Enclosure F and manually adjust flow, steps 2-4. (K/A 061A2.04; 3.4/3.8)	(M) (E) (L)	4S		
j. JPPF-166B, Establish Chilled Water Alternate Cooling to Charging Pumps. (K/A 026AA1.07; 2.9/3.0)	(D) (E) (R)	8		
k. JPP-052, Startup a Battery Charger per SOP-311. (K/A 063A4.01; 2.8/3.1)	(D)	6		

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@ All control room (and in-plant) systems must be different and serve different safety				
functions; in-plant systems and functions may overlap those tested in the control				
room.				
* 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 / ≤ 8 / ≤ 4			
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1			
(L)ow-Power	≥ 1 / ≥ 1 / ≥ 1			
(N)ew or (M)odified from bank including 1(A)	$\geq 2 / \geq 2 / \geq 1$			
(P)revious 2 exams	\leq 3 / \leq 3 / \leq 2 (randomly selected)			
(R)CA	$\geq 1/ \geq 1/ \geq 1$			
(S)imulator				

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Control Room/In-Plant Systems Outline

Form ES-301-2

Facility:V.C. SummerDate of Examination:12/12-12/15/05Exam Level (circle one):RO / SRO-I / SRO-UOperating Test No.:2005-301				
Control Room Systems [@] (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)				
System / JPM Title	Type Code*	Safety Function		
a. Start and load Diesel Generator "A" from the control room in the test start mode per SOP-306.16A, starting at step 2.2.i. (At step 2.5.b, the D/G will over speed requiring an emergency STOP.) (K/A 062A1.01; 3.4/3.8)	(N) (S) (A)	6		
b. JPSF-059, Alternate Isolation of Rutured S/G ('C' MSIV) (K/A (D) (S) (A) 038EA1.32; 4.6/4.7)				
 c. JPSF-012, Dropped Rod Recovery. When Rod F2 is withdrawn to the 30 step position, the rod stops moving (stuck). When the ROD CNTRL BANK SEL switch is taken to manual per AOP-403.5, rods F2 and another rod within the same group drop requiring a manual trip. (K/A 003AA1.02; 3.6/3.4) 				
d.				
е.				
f.				
g.				
h.				
In-Plant Systems [@] (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)				
i. JPP-055, Locally Start the Turbine Driven Emergency Feedwater Pump per FEP-4.0 Enclosure F and manually adjust flow, steps 2-4. (K/A 061A2.04; 3.4/3.8)	(M) (E) (L)	4S		
j. JPPF-166B, Establish Chilled Water Alternate Cooling to Charging Pumps. (K/A 026AA1.07; 2.9/3.0)	(D) (E) (R)	8		
k.				
@ All control room (and in-plant) systems must be different and serve different safety functions; in-plant systems and functions may overlap those tested in the control room.				
* 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 / ≤ 8 / ≤ 4
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1
(L)ow-Power	≥ 1 / ≥ 1 / ≥ 1
(N)ew or (M)odified from bank including 1(A)	$\geq 2 / \geq 2 / \geq 1$
(P)revious 2 exams	\leq 3 / \leq 3 / \leq 2 (randomly selected)
(R)CA	≥ 1/≥ 1/≥ 1
(S)imulator	