Susquehanna Learning Center 769 Salem Boulevard Berwick, PA 18603-0467 570-542-3353



May 8, 2008

Mr. John Caruso USNRC Chief Examiner USNRC Region 1 475 Allendale Road King of Prussia, PA 19406-1415

Susquehanna Learning Center Examination Outline PLA 006366 File A14-13D

Mr. Caruso:

Enclosed for your review and approval are the Updated Examination Materials for the PPL Susquehanna, LLC Initial Licensed Operator Examination scheduled on May 16, 2008. These materials support the 2008 NRC Written RO Exam, a written retest exam for three [3] RO candidates. These materials are submitted in accordance with NUREG 1021, "Operator Licensing Examination Standards for Power Reactors", Revision 9 Supp.1. The following materials are enclosed:

- Form ES-201-3, Examination Security Agreement (Up to Date Copy)
- Form ES-401-6, Written Examination Quality Checklist Rev. 0 (Signed)
- RO Written Outline (Rev. 5 dated 5/2/08)
 Form ES-401-1, BWR Examination Outline RO Rev. 5
 Form ES-401-3, Generic Knowledge and Abilities Outline Tier 3-RO Rev. 5
- Form ES-401-4, Record of Rejected K/As Rev. 5
- Memo with the summary of changes to the exam since the draft submittal.
- Hardcopy of all new or revised exam items with new references attached by question.
- Electronic copy of the entire exam submittal in MS Word on the enclosed CD-Rom.

Modifications to the previously submitted outlines were made as a result of feedback received following NRC review and comments. Following incorporation of the NRC Comments, the entire exam was revalidated with only editorial comments, documented in the summary above.

PLA – 006366 File A14-13D

We request that these materials be withheld from public disclosure until after the completion of the examination. If you have any questions, please feel free to contact me at 570-542-3126 or Chris Michaels at 570-542-1891.

The above materials have been reviewed for "Safeguards Material" content. None of these materials are deemed to be "Safeguards Material."

Sincerely,

Robert M. Peal Manager-Nuclear Training

Response: No

Enclosures: Listed

cc: R. M. Fry R. R. Sgarro Ops Letter File Nuc Records-Site

cm 45 day cover letter

CM/RMP/nlk

Written Examination Outline

Submitte May 8, 200' Form ES-401-1

ES-401

Facility:	SSES 2	008 F	RO E	xam		Dat	e of I	Exam	1:		5/1	6/20	08					
			_		RO K	C/A C	Categ	ory P	oints	3				SR	0-0	nly P	oints	
Tier	Group	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	Total	Α	2	G	*	Total
1.	1	3	2	3				4	5			3	20	N.	A	N.	A	7
Emergency &	2	1	2	1				1	1			1	7	N	A	N	A	3
Plant Evolutions	Tier Totals	4	4	4				5	6			4	27	N.	A	N.	A	10
	1	3	2	3	3	3	2	2	2	3	1	2	26	N	A	N.	A	5
2. Plant	2	2	1	0	1	0	1	2	2	1	1	1	12	N A	N A	N	A	3
Systems	Tier Totals	5	3	3	4	3	3	4	4	4	2	3	38	N	A	N	A	8
3. Generic K	nowledge	e & A	Abilit	ies		l	2	2		3	4	•	10	1	2	3	4	7
(Categorie	S				4		2		2	2	2	10	N A	N A	N A	N A	/
Note: 1. 2. 3. 4. 5.	Ensure ti SRO-onl K/A cate The poir final poir revisions Systems, not apply not inclu eliminati Select to before se Absent a selected.	Ensure that at least two topics from every applicable K/A category are sampled within each tier of the RO and SRO-only outlines (i.e., except for one category in Tier 3 of the SRO-only outline, the "Tier Totals" in each K/A category shall not be less than two). The point total for each group and tier in the proposed outline must match that specified in the table. The final point total for each group and tier may deviate by ±1 from that specified in the table based on NRC revisions. The final RO exam must total 75 points and the SRO-only exam must total 25 points. Systems/evolutions within each group are identified on the associated outline; systems or evolutions that do not apply at the facility should be deleted and justified; operationally important, site-specific systems that are not included on the outline should be added. Refer to section D.1.b of ES-401, for guidance regarding elimination of inappropriate K/A statements. Select topics from as many systems and evolutions as possible; sample every System or evolution in the group before selecting a second topic for any system or evolution.																
6.	Select S	RO to	pics f	for Ti	ers 1 a	and 2	from	the sł	naded	syste	ms an	d K/A	A categor	ies.				
7.*	The gene must be K/A's	eric ((releva	G) K/. ant to	As in the aj	Tiers pplica	1 and ble ev	l 2 sha volutio	all be on or	selec syste	ted fro m. Re	om Se fer to	ction Secti	2 of the on D.1.b	K/A C of ES	Catalo 5-401	g, but for th	the to e appl	ppics licable
8.	On the for ratings (group ar Category #1 does	ollow IR) fo id tier y A2 o not ap	ing pa or the totals or G* oply).	ages, applie s for e on th Use e	enter cable each c e SR(duplic	the K licens atego D-onl ate pa	/A nu se leve ry in t y exar ages fe	mbers el, and the ta n, ent or RC	s, a bi d the ble al ter it) and	rief de point 1 pove.] on the SRO-	script totals If fuel left si only e	ion o (#) fc hanc ide of exams	f each top or each sy lling equ f Column s.	pic, th /stem ipmen A2 fo	e topi and c at is sa or Tie	ics' in ategoi impleo r 2, G	nporta ry. Er d in of roup 2	nce hter the ther than 2 (Note
9.	For Tier point tot	3, sel als (#	lect to	pics f	from S ES-40	Sectio 11-3.	n 2 of Limit	the I SRO	<td>Catalog ctions</td> <td>g, and to K//</td> <td>enter As the</td> <td>r the K/A at are linl</td> <td>numl ked to</td> <td>bers, o 10CI</td> <td>descrip FR55.4</td> <td>ptions 43</td> <td>, IRs, and</td>	Catalog ctions	g, and to K//	enter As the	r the K/A at are linl	numl ked to	bers, o 10CI	descrip FR55.4	ptions 43	, IRs, and

Susquehanna 2008 RO Written Outline Rev. 5

SSES 2008 RO Written Exam Written Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1 Group 1

EAPE # / Name Safety Function	K1	K2	К3	A1	A2	G	K/A Topic(s)	lmp.	Q#
295024 High Drywell Pressure / 5	x						EK1.01 - Knowledge of the operational implications of the following concepts as they apply to HIGH DRY WELL PRESSURE : Drywell integrity: Plant- Specific	4.1	39
295021 Loss of Shutdown Cooling / 4	x						AK1.04 - Knowledge of the operational implications of the following concepts as they apply to LOSS OF SHUTDOWN COOLING : Natural circulation	3.6	40
295004 Partial or Total Loss of DC Pwr / 6	x						AK1.05 - Knowledge of the operational implications of the following concepts as they apply to PARTIAL OR COMPLETE LOSS OF D.C. POWER : Loss of breaker protection	3.3	41
295031 Reactor Low Water Level / 2					x		EA2.01 - Ability to determine and/or interpret the following as they apply to REACTOR LOW WATER LEVEL : Reactor water level	4.6	42
295003 Partial or Complete Loss of AC / 6		x					AK2.02 - Knowledge of the interrelations between PARTIAL OR COMPLETE LOSS OF A.C. POWER and the following: Emergency generators	4.1	43
295031 Reactor Low Water Level / 2		x					EK2.15 - Knowledge of the interrelations between REACTOR LOW WATER LEVEL and the following: A.C. distribution: Plant- Specific	3.2	44
295018 Partial or Total Loss of CCW / 8			x				AK3.05 - Knowledge of the reasons for the following responses as they apply to PARTIAL OR COMPLETE LOSS OF COMPONENT COOLING WATER : Placing standby heat exchanger in service	3.2	45
600000 Plant Fire On-site / 8			x				AK3.04 - Knowledge of the reasons for the following responses as they apply to PLANT FIRE ON SITE: Actions contained in the abnormal procedure for plant fire on site	2.8	46
295005 Main Turbine Generator Trip / 3			x				AK3.03 - Knowledge of the reasons for the following responses as they apply to MAIN TURBINE GENERATOR TRIP: Feedwater temperature decrease	2.8	47
295037 SCRAM Conditions Present and Reactor Power Above APRM Downscale or Unknown / 1				x			EA1.05 - Ability to operate and/or monitor the following as they apply to SCRAM CONDITION PRESENT AND REACTOR POWER ABOVE APRM DOWNSCALE OR UNKNOWN : CRD hydraulics systems	3.9	48
295019 Partial or Total Loss of Inst. Air / 8				x			AA1.02 - Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF INSTRUMENT AIR : Instrument air system valves: Plant-Specific	3.3	49

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SSES 2008 RO Written Exam Written Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1 Group 1

EAPE # / Name Safety Function	K1	К2	КЗ	A1	A2	G	K/A Topic(s)	Imp.	Q#
295026 Suppression Pool High Water Temp. / 5				x			EA1.01 - Ability to operate and/or monitor the following as they apply to SUPPRESSION POOL HIGH WATER TEMPERATURE: Suppression pool cooling	4.1	50
295025 High Reactor Pressure / 3					X		EA2.02 - Ability to determine and/or interpret the following as they apply to HIGH REACTOR PRESSURE: Reactor power	4.2	51
295023 Refueling Acc Cooling Mode / 8					X		AA2.02 - Ability to determine and/or interpret the following as they apply to REFUELING ACCIDENTS : Fuel pool level	3.4	52
295030 Low Suppression Pool Water Level / 5					×		EA2.02 - Ability to determine and/or interpret the following as they apply to LOW SUPPRESSION POOL WATER LEVEL : Suppression pool temperature	3.9	53
295028 High Drywell Temperature / 5						X	2.4.6 - Emergency Procedures / Plan: Knowledge of EOP mitigation strategies.	3.7	54
295001 Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4						X	2.1.31 - Conduct of Operations: Ability to locate control room switches, controls, and indications, and to determine that they correctly reflect the desired plant lineup.	4.6	55
295016 Control Room Abandonment / 7						×	2.1.23 - Conduct of Operations: Ability to perform specific system and integrated plant procedures during all modes of plant operation.	4.3	56
700000 Generator Voltage and Electric Grid Disturbances				x			AA1.02 - Ability to operate and/or monitor the following as they apply to GENERATOR VOLTAGE AND ELECTRIC GRID DISTURBANCES: Turbine/generator controls.	3.8	57
295004 Partial or Total Loss of DC Pwr / 6					×		AA2.04 - Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF D.C. POWER : System lineups	3.2	58
K/A Category Totals:	3	2	3	4	5	3	Group Point Total:		20

3

SSES 2008 RO Written Exam Written Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1 Group 2

EAPE # / Name Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	lmp.	Q#

500000 High CTMT Hydrogen Conc. / 5	x						EK1.01 - Knowledge of the operational implications of the following concepts as they apply to HIGH CONTAINMENT HYDROGEN CONCENTRATIONS: Containment integrity	3.3	59
295002 Loss of Main Condenser Vac / 3		x					AK2.04 - Knowledge of the interrelations between LOSS OF MAIN CONDENSER VACUUM and the following: Reactor/turbine pressure regulating system	3.2	60
295013 High Suppression Pool Temperature / 5			x				AK3.02 - Knowledge of the reasons for the following responses as they apply to HIGH SUPPRESSION POOL TEMPERATURE : Limiting heat additions	3.6	61
295007 High Reactor Pressure / 3				x			AA1.02 - Ability to operate and/or monitor the following as they apply to HIGH REACTOR PRESSURE : HPCI: Plant-Specific	3.5	62
295015 Incomplete SCRAM / I					X		AA2.02 - Ability to determine and/or interpret the following as they apply to INCOMPLETE SCRAM : Control rod position	4.1	63
295036 Secondary Containment High Sump/Area Water Level / 5						X	2.4.20 - Emergency Procedures / Plan: Knowledge of operational implications of EOP warnings, cautions, and notes.	3.8	64
295034 Secondary Containment Ventilation High Radiation / 9		x					EK2.06 - Knowledge of the interrelations between SECONDARY CONTAINMENT VENTILATION HIGH RADIATION and the following: PCIS/NSSSS: Plant-Specific	3.9	65
K/A Category Totals:	1	2	1	1	1		Group Point Total:		7

4

System # / Name	К 1	К 2	К 3	К 4	K 5	К 6	A 1	A 2	A 3	A 4	G				lmp.	Q#
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400000 Component Cooling Water	x					K3.01 - Knowledge of the effect that a loss or malfunction of the CCWS will have on the following: Loads cooled by CCWS	2.9	1
206000 HPCI		x				K4.13 - Knowledge of HIGH PRESSURE COOLANT INJECTION SYSTEM design feature(s) and/or interlocks which provide for the following: Turbine and pump lubrication: BWR- 2,3,4	3.0	2
300000 Instrument Air		×				K4.02 - Knowledge of (INSTRUMENT AIR SYSTEM) design feature(s) and or interlocks which provide for the following: Cross-over to other air systems	3.0	3
215004 Source Range Monitor		×				K5.03 - Knowledge of the operational implications of the following concepts as they apply to SOURCE RANGE MONITOR (SRM) SYSTEM : Changing detector position	2.8	4
212000 RPS		x				K5.01 - Knowledge of the operational implications of the following concepts as they apply to REACTOR PROTECTION SYSTEM : Fuel thermal time constant	2.7	5
262001 AC Electrical Distribution			x			K6.03 - Knowledge of the effect that a loss or malfunction of the following will have on the A.C. ELECTRICAL DISTRIBUTION: Generator trip	3.5	6
203000 RHR/LPCI: Injection Mode			×			K6.04 - Knowledge of the effect that a loss or malfunction of the following will have on the RHR/LPCI: INJECTION MODE (PLANT SPECIFIC) : Keep fill system	3.3	7
262002 UPS (AC/DC)				x		A1.02 - Ability to predict and/or monitor changes in parameters associated with operating the UNINTERRUPTABLE POWER SUPPLY (A.C./D.C.) controls including: Motor generator outputs	2.5	8

4

Form ES-401-1

System # / Name	К 1	К 2	к 3	К 4	К 5	K 6	A 1	A 2	A 3	A 4	G		lmp.	Q#
263000 DC Electrical Distribution							x					A1.01 - Ability to predict and/or monitor changes in parameters associated with operating the D.C. ELECTRICAL DISTRIBUTION controls including: Battery charging/discharging rate	2.5	9
223002 PCIS/Nuclear Steam Supply Shutoff								×				A2.05 - Ability to (a) predict the impacts of the following on the PRIMARY CONTAINMENT ISOLATION SYSTEM/NUCLEAR STEAM SUPPLY SHUT-OFF ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abn cond or ops. Nuclear boiler instrumentation failures	3.3	10
217000 RCIC								一次のないたいでは、「「「「「」」」、「」」、「」、「」、「」、「」、「」、「」、「」、「」、「」	A DESCRIPTION OF A DESC			A2.10 - Ability to (a) predict the impacts of the following on the REACTOR CORE ISOLATION COOLING SYSTEM (RCIC); and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Turbine control system failures	3.1	11
218000 ADS									X			A3.04 - Ability to monitor automatic operations of the AUTOMATIC DEPRESSURIZATION SYSTEM including: Primary containment pressure	3.7	12
239002 SRVs									X			A3.04 - Ability to monitor automatic operations of the RELIEF/SAFETY VALVES including: Acoustical monitor noise: Plant-Specific	3.6	13
211000 SLC										×		A4.05 - Ability to manually operate and/or monitor in the control room: Flow indication: Plant-Specific	4.1	14
215005 APRM / LPRM										, , , , , , , , , , , , , , , , , , , ,		A3.08 - Ability to monitor automatic operations of the AVERAGE POWER RANGE MONITOR/LOCAL POWER RANGE MONITOR SYSTEM including: Control rod block status	3.7	15

4

Form ES-401-1

System # / Name	К 1	К 2	К 3	К 4	K 5	K 6	A 1	A 2	A 3	A 4	G		Imp.	Q#
										_				
212000 RPS	x											K1.05 - Knowledge of the physical connections and/or cause- effect relationships between REACTOR PROTECTION SYSTEM and the following: Process radiation monitoring system	3.3	16
259002 Reactor Water Level Control	x											K1.02 - Knowledge of the physical connections and/or cause- effect relationships between REACTOR WATER LEVEL CONTROL SYSTEM and the following: Main steam flow	3.2	17
205000 Shutdown Cooling		x										K2.02 - Knowledge of electrical power supplies to the following: Motor operated valves	2.5	18
209001 LPCS		×										K2.01 - Knowledge of electrical power supplies to the following: Pump power	3.0	19
264000 EDGs			x									K3.02 - Knowledge of the effect that a loss or malfunction of the EMERGENCY GENERATORS (DIESEL/JET) will have on following: A.C. electrical distribution	3.9	20
261000 SGTS								and the second sec			A state of the sta	2.2.42 - Equipment Control:: Ability to recognize system parameters that are entry-level conditions for Technical Specifications.	3.9	21
259002 Reactor Water Level Control								第二人 1000年の1月1日には、1000年間には、100				2.2.44 - Equipment Control: Ability to interpret control room indications to verify the status and operation of a system, and understand how operator actions and directives effect plant and system conditions.	4.2	22
203000 RHR/LPCI: Injection Mode					×							K5.02 - Knowledge of the operational implications of the following concepts as they apply to RHR/LPCI: INJECTION MODE (PLANT SPECIFIC) : Core cooling methods	3.5	23
264000 EDGs	x											K1.04 - Knowledge of the physical connections and/or cause- effect relationships between EMERGENCY GENERATORS (DIESEL/JET) and the following: Emergency generator cooling water system	3.2	24

4

System # / Name	K 1	K 2	К 3	K 4	K 5	К 6	A 1	A 2	A 3	A 4	G		lmp.	Q#
209001 LPCS				x								K4.10 - Knowledge of LOW PRESSURE CORE SPRAY SYSTEM design feature(s) and/or interlocks which provide for the following: Testability of all operable components	2.8	25
205000 Shutdown Cooling			x									K3 02 - Knowledge of the effect that a loss or malfunction of the SHUTDOWN COOLING SYSTEM (RHR SHUTDOWN COOLING MODE) will have on following: Reactor water level Plant Specific	3.2	26
K/A Category Totals:	3	2	3	3	3	2	2	2	3	1	2	Group Point Total:		26

5

Form ES-401-1

System # / Name K K K K K K A A A A A G Imp. Q#								_	_		and the Article Statement	COLUMN TO A DE LA DE		
	System # / Name	К 1	к 2	К 3	к 4	К 5	K 6	A 1	A 2	A 3	A 4	G	lmp.	Q#

202001 Recirculation			x		K6.02 - Knowledge of the effect that a loss or malfunction of the following will have on the RECIRCULATION SYSTEM : Component cooling water systems	3.1	27
286000 Fire Protection	x				K2.02 - Knowledge of electrical power supplies to the following: Pumps	2.9	28
201006 RWM	x				K1.02 - Knowledge of the physical connections and/or cause- effect relationships between ROD WORTH MINIMIZER SYSTEM (RWM) (PLANT SPECIFIC) and the following: Rod position indication system: P-Spec(Not- BWR6)	3.4	29
259001 Reactor Feedwater		x			K4.11 - Knowledge of REACTOR FEEDWATER SYSTEM design feature(s) and/or interlocks which provide for the following: Recirculation runbacks: Plant-Specific	3.5	30
259001 Reactor Feedwater					A2.04 - Ability to (a) predict the impacts of the following on the REACTOR FEEDWATER SYSTEM; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Loss of extraction steam	3.3	31
216000 Nuclear Boiler Inst.	x				K1.01 - Knowledge of the physical connections and/or cause- effect relationships between NUCLEAR BOILER INSTRUMENTATION and the following: Reactor protection system	3.9	32
256000 Reactor Condensate				X	A1.07 - Ability to predict and/or monitor changes in parameters associated with operating the REACTOR CONDENSATE SYSTEM controls including: System lineup	3.1	33
216000 Nuclear Boiler Inst.				×	A1.02 - Ability to predict and/or monitor changes in parameters associated with operating the NUCLEAR BOILER INSTRUMENTATION controls including: Removing or returning a sensor (transmitter) to service	2.9	34

System # / Name	К 1	K 2	к 3	K 4	K 5	К 6	A 1	A 2	A 3	A 4	G		Imp.	Q#
271000 Off-gas									x			A3.02 - Ability to monitor automatic operations of the OFFGAS SYSTEM including: System flows	2.9	35
234000 Fuel Handling Equipment										x		A4.01 - Ability to manually operate and/or monitor in the control room: Neutron monitoring system	3.7	36
230000 RHR/LPCI: Torus/Pool Spray Mode											X	2.4.31 - Emergency Procedures / Plan: Knowledge of annunciator alarms, indications, or response procedures.	4.2	37
241000 Reactor/Turbine Pressure Regulator												A2.09 - Ability to (a) predict the impacts of the following on the REACTOR/TURBINE PRESSURE REGULATING SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Loss of generator load	3.4	38
K/A Category Totals:	2	1	0	1	0	1	2	2	1	1	1	Group Point Total:		12

Facility:SSES 2008 RO Written ExamDate:5/16/2008						
Category	K/^ #	RO		SRO-Only		
Calegoly	NA#	Торіс	IR	Q#	IR	Q#
1. Conduct of Operations						
	2.1.9	Ability to direct personnel activities inside the control room.	2.9	66		
	2.1.20	Ability to interpret and execute procedure steps.	4.6	67		
	2.1.41	Knowledge of the refueling process.	2.8	69		
	2.1.34	Knowledge of primary and secondary plant chemistry limits.	2.7	74		
	Subtotal			4		
2. Equipment Control						
	2.2.17	Knowledge of the process for managing maintenance activities during power operations, such as risk assessments, work prioritization, coordination with the transmission system operator.	2.6	68		
	2.2.7	Knowledge of the process for conducting special or	2.9	75		
	Subtotal			2		
3. Radiation Control	2.3.12	Knowledge of Radiological Safety Principles pertaining to licensed operator duties, such as containment entry requirements, fuel handling responsibilities, access to locked high-radiation areas, aligning filters, etc.	3.2	70		
	2.3.4	Knowledge of radiation exposure limits under normal or	3.2	71		
	Subtotal	L		2		
4. Emergency Procedures / Plan			<u>, , , , , , , , , , , , , , , , , , , </u>		and the second second	
	2.4.16	Knowledge of EOP implementation hierarchy and coordination with other support procedures or guidelines such as, operating procedures, AOP's and SAMG's.	3.5	72		
	2.4.42	Knowledge of emergency response facilities.	2.6	73		
			LINE - LA LARGERO			
	Subtotal			2		
Tier 3 Point Tota	1			10		7

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Tier / Group	Randomly Selected K/A	Reason for Rejection
1 / 1	295038 / 2.2.38	(Q #54) KA for High Offsite Release Rate with Generic 2.2.38 raises this to the SRO level, making it difficult to write a discriminating question at the RO level. Randomly replaced with 295028 G2.4.6.
2 / 1	211000 / K1.07	(Q #2) Concept too basic to write a discriminating question related to the subject K/A. Randomly replaced with 295002 K1.02.
2 / 1	215003 / K5.03	(Q #10) Duplicate KA for nuclear Instrument detector position. Deselected the IRM, retained the SRM K/A. Randomly replaced with 212000 K5.01.
2 / 1	215005 / A4.03	(Q #20) At Susquehanna, the APRM back panel meters, switches and indicator lights are in the Lower Relay Room, not the control room with limited operational impact due to the recent PRNMS modification. Randomly replaced with 215005 A3.08.
2/2	201004 / K3.01	(Q #29) Current plant procedure has this system bypassed in startup and shutdown, only used for indication following reactor scram. RSCS has limited use at SSES and has been removed from TS and TRM. Randomly replaced with 201006 K1.02.
3 / 2	G2 / 2.2.23	(Q #69) The KA to track Technical Specification LCO is a SRO task above the level which would make a discriminating question for an RO. Randomly replaced with 2.1.41.
2/2	286000 / K5.07	(Q #31) This K/A topic has limited operational validity for RO applicants. Randomly replaced with 259001 A2.04.
2/2	256000 / K2.01	(Q #31) Oversampled Condensate System. This K/A topic has limited operational validity for RO applicants. Randomly replaced with 259001 A2.04.
2/2	215002 / K6.03	(Q #32) Essential Power used for RBM Operator Display Assembly ODA only with limited operational impact. Randomly replaced with 216000 K1.01.
2 / 2	223001 / K1.17	(Q #27) Over sampled K1 in Tier Group 2. Randomly replaced with 272000 K6.02.
2 / 1	239002 / K1.06	(Q #10) Oversampled K1 in Tier Group 1. Randomly replaced with 212000 K5.01.
2 / 2	272000 / K6.02	(Q #27) There is no direct system interrelationship between Radiation Monitoring and DC power. Randomly replaced with 202001 K6.02.
2 / 2	239001 / K4.04	(Q #30) Concept too basic to write a discriminating question on this design feature. Randomly replaced with 259001 K4.11.
2 / 2	233000 / K2.02	(Q #28) Very similar to K/A on power supply to Core Spray pumps. Oversampled ECCS power supplies. Randomly reselected with K/A 286000 K2.02.
2 / 2	259001 / A2.01	(Q #34) Oversampled Reactor Feedwater and for the RFP trip, question in this area would be too simplistic per telecon with Chief Examiner. Randomly replaced with K/A 216000 A1.02.

1 / 1	295006 / AA2.02	(Q #58) Duplicate to Question #63, similar K/A with only difference between Scram and Incomplete Scram. Randomly replaced with K/A 295004 AA2.04.
1 / 2	295020 / AK1.02	(Q #59) Very narrow scope of containment isolations that have any effect on reactivity control. Randomly replaced with K/A 50000 EK1.01.
2 / 1	212000 / K3.09	(Q #26) This K/A overlaps with similar K/As randomly selected on the EPE/APE section of the exam, e.g., Questions 51, 61. Randomly replaced with 209001 K3.01.
1 / 1	295028 / EK2.01	(Q #42) This concept overlaps with existing K/A in Question 54 related to High Drywell Temperature. Randomly replaced with K/A 295031 EA2.01.
2 / 1	259002 / A4.02	(Q #19) Oversampled 259002 Feedwater Water Level Control (FWLC) in Tier 2. Randomly reselected K/A 211000 A4.05.
2 / 1	209001 / K3.01	(Q#26) Oversampled 209001 LPCS system in Tier 2 Group 1. Randomly reselected K/A 205000 K3.02.