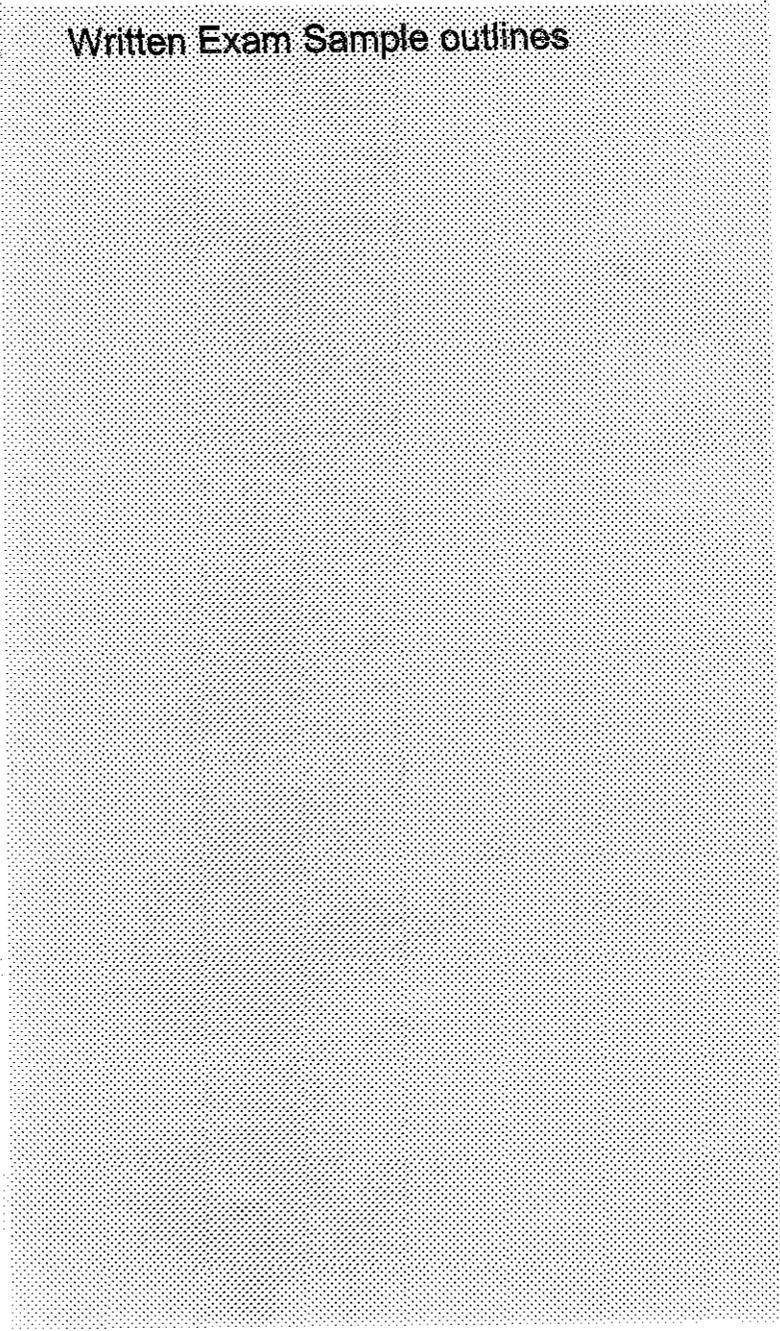


Draft Submittal
(Pink Paper)

MCGUIRE OCTOBER 2003
EXAM 50-369 & 50-37012003-302

OCTOBER 21, 2003

1. **Written Exam Sample outlines**
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NRC Develops outline

Facility: *McGuire*

Date of Exam: *Retake 2008*

Tier	Group	RO K/A Category Points											SRO-Only Points						
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	Total	K	A 2	A 2	G *	Total	
1. Emergency & Abnormal Plant Evolutions	1												18			4	3	7	
	2												9			3	2	5	
	Tier Totals												27			7	5	12	
2. Plant Systems	1												28			2	2	4	
	2												10			1	1	2	
	Tier Totals												38			3	3	6	
3. Generic Knowledge and Abilities Categories				1	2	3	4						10	1	2	3	4		
														2	2	1	2	7	

- Note:
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 WA 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 WA 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 SRQ-only knowledge and non-A2 ability categories in the columns labeled "K" and "A." Use duplicate pages for RO and SRO-only exams.
 - h. For Tier 3, enter the K/A numbers, descriptions, importance ratings, and point totals on Form ES-401-3.
 - i. Refer to ES-401, Attachment 2, for guidance regarding the elimination of inappropriate WA statements.

Tier 1 Group 1

Name / Safety Function:	K1	K2	K3	A1	A2	G	KIA Number	Question Type	KIA Topic	RO	SRO
Reactor Trip - Stabilization - Recovery / 1	0	0	0	0	0	0	007EG2.1.32	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.4	3.8
Pressurizer Vapor Space Accident / 3	0	0	0	0	0	0	008AG2.1.32	This is a Generic, no stem statement is associated.	WA Randomly Rejected	3.4	3.8
Small Break LOCA / 3	0	0	0	0	0	0	009EA2.32	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	3.6
Large Break LOCA / 3	0	0	0	0	0	1	011EG2.4.49	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
RCP Malfunctions / 4	0	0	0	0	0	0	015AG2.1.33	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.4	4
Loss of Rx Coolant Makeup / 2	0	0	0	0	1	0	022AA2.04	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION) (CFR 41.10 / 43.5 / 45.13)	How long PZR level can be maintained within limits	2.9	3.8
Loss of RHR system / 4	0	0	0	0	1	0	025AA2.06	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION) (CFR 41.10 / 43.5 / 45.13)	Existence of proper RHR overpressure protection	3.2	3.4
Loss of Component Cooling Water / 8	0	0	0	0	0	0	026AG2.4.49	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	4	4
Pressurizer Pressure Control System Malfunction / 3	0	0	0	0	0	0	027AG2.2.22	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.4	4.1

25 Point Test

Tier 1 Group 1

Name/ Safety Function:	K1	K2	K3	A1	A2	G	KIA Number	Question Type	K/A Topic	RO	SUO
ATWS / 1	0	0	0	0	0	0	029EG2.1.32	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.4	3.8
Steam Gen Tube Rupture 13	0	0	0	0	0	0	038EA2.14	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	3.3	4.6
Steam Line Rupture - Excessive Heat Transfer / 4	0	0	0	0	0	3	040AG2.4.30	This is a Generic, no stem statement is associated	K/A Randomly Rejected	2.2	3.6
Loss of Main Feedwater / 4	0	0	0	0	0			apply to ABNORMAL PLANT EVOLUTION): (CFR: 41.10 / 43.5 / 45.13)		4.1	4.4
Station Blackout / 6	0	0	0	0	0	0	055EG2.1.33	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.4	A
Loss of Off-site Power / 6	0	0	0	0	0	0	056AA2.52	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	2.8
Loss of Vital AC Inst. Bus / 6	0	0	0	0	0	1	057AG2.1.14	This is a Generic, no stem statement is associated	Knowledge of system status criteria which require the notification of plant personnel.	2.5	3.3
Loss of DC Power / 6	0	0	0	0	1	0	058AA2.02	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION): (CFR: 41.10 / 43.5 / 45.13)	125V dc bus voltage, low/critical low. alarm	3.3	3.6
Loss of Nuclear Svc Water / 4	0	0	0	0	0	0	062AG2.4.30	This is a Generic, no stem statement is associated	WA Randomly Rejected	2.2	3.6

25 Point Test

Tier 1 Group 1

Name / Safety

Function:	K1	K2	K3	A1	A2	G	KIA Number	Question Type	KIA Topic	RO	SRO
Loss of Instrument Air / 8	0	0	0	0	0	1	065AG2.1.14	This is a Generic, no stem statement is associated.	Knowledge of system status criteria which require the notification of plant personnel	2.5	3.3
LOCA Outside Containment / 3	0	0	0	0	0	0	WE04EA2.2	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION): (CFR: 41.10 / 43.5 / 45.13)	KIA Randomly Rejected	3.6	4.2
Loss of Emergency Coolant Recirc. / 4	0	0			1	0	WE11EA2.2	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	4.2
Steam Line Rupture - Excessive Heat Transfer / 4	0	0	0	0	0	0	WE12EA2.2	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION): (CFR: 41.10 / 43.5 / 45.13)	KIA Randomly Rejected	3.4	3.9
inadequate Heat Transfer - Loss Of Secondary	0	0	0	0	0	0	WE05EG2.2	This is a Generic, no stem statement is associated	KIA Randomly Rejected	2.5	3.7

Tier 1 Group 2

Name / Safety Function:	K1	K2	K3	A1	A2	G	KIA Number	Question Type	KIA Topic		
High Containment Radiation / 9	0	0	0	0	0	1	WE16EG2.4	This is a Generic. no stem statement is associated	Knowledgesymptom based EOP mitigation strategies.		
SI Termination / 3	0	0	0	0	0	0	WE02EA2.1	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	3.3	4.2
			0	0	0	0	WE03EG2.1	This is a Generic, no stem statement is associated.	WA Randomly Rejected		
Natural Circ / 4	0	0	0	0	0	0	WE09EG2.4	This is a Generic, no stem statement is associated	K/A Randomly Rejected		
Natural Circ With Seam	0	0	0	0	0	1	WE10EG2.4 <i>SD</i>	This is a Generic. no stem statement is associated <i>45.3 reference go must deselect</i>	Ability to verify system alarm setpoints and operate controls identified in the alarm response manual.		
RCS Overcooling - PTS / 4	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)	WA Randomly Rejected		
Degraded Core Cooling / 4	0	0	0	0	0	0	WE06EA2.1	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	4.2

Continuous	0	0	0	0	0	0	001AG2.1.14	This is a Generic, no stem statement is associated.	KIA Randomly Rejected	2.5	3.3
Dropped Control Rod / 1	0	0	0	0	0	0	033AG2.4.4	This is a Generic, no stem statement is associated	WA Randomly Rejected	4	4.3
Inoperable/Stuck Control Rod / 1	0	0	0	0	0	0	005AA2.03	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	4.4
Emergency Boration / 1	0	0	0	0	0	0	024AG2.1.32	This is a Generic, no stem statement is associated.	KIA Randomly Rejected	3.4	3.8
Pressurizer Level Malfunction / 2	0	0	0	0	0	0	028AR2.14	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	2.6	2.8
		0	0	0	0	0	032AG2.4.49	This is a Generic, no stem statement is associated	K/A Randomly Rejected	4	4
Loss of	0	0	0	0	0	0	033AG2.4.49	This is a Generic, no stem statement is associated	WA Randomly Rejected	4	4

25 Point Test

Tier 1 Group 2

Name Safety Function:	K1	K2	K3	A1	A2	G	KIA Number	Question Type	KIA Topic	RO	SRO
Fuel Handling Accident / 8	0	0	0	0	0	0	036AA2.02	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	3.4	4.1
Steam Generator Tube Leak / 3	0	0	0	0	0	0	037AG2 4 49	This is a Generic, no stem statement is associated	WA Randomly Rejected	4	4
LOSS of Condenser Vacuum / 4	0	0	0	0	0	0	051AA2.01	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	2.4	2.7
Accidental Liquid RadWaste Rel.	0	0	0	0	1	0	059AA2.02	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	The permit for liquid radioactive-waste release	2.9	3.9
Accidental Gaseous Radwaste Rel / 9	0	0	0	0	0	0	060AA2.03	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	3.2	3.9
ARM System Alarms / 7	0	0	0	0	1	0	061AA2.01	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	ARM panel displays	3.5	3.7
Plant Fire On-site / 9 8	0	0	0	0	0	0	067AG2 2 25	This is a Generic, no stem statement is associated	WA Randomly Rejected	2.5	3.7

25 Point Test

Tier1 Group2

Name/ Safety Function:	K1	K2	K3	A1	A2	G	KIA Number	Question Type	KIA Topic	RO	SRO
Control Room Evac / 8	0	0	0	0	0	0	068AA2.08	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
Loss of CTMT Integrity / 5	0	0	0	0	0	0	069AG2.22	This is a Generic, no stem statement is associated.	KIA Randomly Rejected	3.4	4.1
Inad. Core Cooling / 4	0	0	0	0	0	0	074EA2.05	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	WA Randomly Rejected	3.4	4.2
High Reactor Coolant Activity / 9	0	0	0	0	0	0	076AA2.05	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	2.2	2.5
Rediagnosis/3	0	0	0	0	0	0	WE01EG2.2	This is a Generic, no stem statement is associated	KIA Randomly Rejected	2.5	3.7
Steam Generator Over-pressure / 4	0	0	0	0	0	0	WE13EG2.1	This is a Generic, no stem statement is associated	K/A Randomly Rejected	3.4	4
Containment Flooding/ 5	0	0	0	0	0	0	WE15EA2.2	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	2.9	3.3

Saturated Core Cooling Core Cooling / 4	0	0	0	0	0	0	WE07EA2.2	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION) (CFR 41.10 / 43.5 / 45.13)		
Loss of CTMT Integrity / 5	0	0	0	0	0	0	WE14EA2.2	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 143.5/ 45.13)	K/A Randomly Rejected	3.3 3.8

25 Point Test

Tier 2 Group 1

Name / Safety Function:	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Number	Question Type	K/A Topic	KO	SRO
Reactor Coolant Pump	0	0	0	0	0	0	0	0	0	0	1	003GG2.1.1	this is a Generic. no stem statement is associated.	Knowledge of system status criteria which require the notification of plant personnel	2.5	3.3
Chemical and Volume Control	0	0	0	0	0	0	0	0	0	0	0	004GG2.4.5	this is a Generic. no stem statement is associated.	KIA Randomly Rejected	3.3	3.3
Residual Heat Removal	0	0	0	0	0	0	0	0	0	0	0	005GG2.4.4	this is a Generic. no stem statement is associated.	KIA Randomly Rejected	4.0	1.3
Emergency Core Cooling	0	0	0	0	0	0	0	0	0	0	0	006A2.13	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 / 45.6)	K/A Randomly Uejected	3.9	4.2
Pressurizer Relief/Quench Tank	0	0	0	0	0	0	0	0	0	0	0	007A2.03	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 / 45.6)	KIA Randomly Rejected	3.6	3.9
Component Cooling Water	0	0	0	0	0	0	0	0	0	0	0	008GG2.1.2	this is a Generic. no stem Statement is associated	KIA Randomly Rejected	2.8	2.9
Pressurizer Pressure Control	0	0	0	0	0	0	0	0	0	0	0	010GG2.1.3	This is a Generic, no stem statement is associated.	KIA Randomly Rejected	3.9	3.4
Reactor Protection	0	0	0	0	0	0	0	0	0	0	0	012A2.01	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 / 45.6)	K/A Randomly Rejected	3.1	3.6
Engineered Safety Features Actuation	0	0	0	0	0	0	0	1	0	0	0	13A2.0	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 instrument bus	3.6	4.2

25 Point Test

Tier 2 Group 1

Name/ Safety Function:	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Number	Question Type	KIA Topic	RO	SRO
Containment Cooling	0	0	0	0	0	0	0	0	0	0	0	022A2 04	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 1 45.6)	WA Randomly Rejected	3.9	3.2
Ice Condenser	0			0	0	0	0	0	0	0	0	025GG2 1 2	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.0	4.0
Containment Spray	0			0	0	0	0	0	0	0	0	026GG2 1 3	This is a Generic, no Stem statement is associated.	WA Randomly Rejected	3.4	3.8
Main and Reheat Steam	0	0	0	0	0	0	0	1	0	0	0	039A2 04	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 1 43.5/ 45.3 145.13)	Malfunctioning steam dump	3.4	3.7
Condensate	0	0	0	0	0	0	0	0	0	0	0	056GG2 1 3	This is a Generic, no stem statement is associated.	WA Randomly Rejected	3.4	4.0
Main Feedwater	0	0	0	0	0		0	0	0	0	0	059A2 12	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 / 45 6)	K/A Randomly Rejected	3.1	3.4
Auxiliary/Emergency Feedwater	0	0	0	0	0		0	0	0	0	0	061GG2 1 3	This is a Generic, no stem statement is associated	WA Randomly Rejected	3.4	3.8
AC Electrical Distribution	0	0	0	0	0		0	0	0	0	0	062A2.11	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 / 45.6)	K/A Randomly Rejected	3.7	4.1
DC Electrical Distribution	0	0	0	0	0		0	0	0	0	0	063GG5.1.2	This is a Generic, no stem statement is associated.	WA Randomly Rejected	3.9	4.0

25 Point Test

Tier 2 Group 1

Name / Safety Function:	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	6	K/A Number	Question Type	K/A Topic	RO	SRO
Emergency Diesel Generator	0	0	0	0	0	0	0	0	0	0	0	064A2.05	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 45.6)	K/A Randomly Rejected	3.1	3.2
Process Radiation Monitoring	0	0	0	0	0	0	0	0	0	0	1	073G2.1.32	This is a Generic, no stem statement is associated.	Ability to explain and apply all system limits and precautions.	3.4	3.8
Service Water	0	0	0	0	0	0	0	0	0	0	0	076GG2.2.2	This is a Generic, no stem statement is associated.	KIA Randomly Rejected	2.5	3.7
Instrument Air	0	0	0	0	0	0	0	0	0	0	0	078A2	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 / 45.6)	K/A Randomly Rejected	0	0
Containment	0	0	0	0	0	0	0	0	0	0	0	103GG2.2.2	This is a Generic, no stem statement is associated	KIA Randomly Rejected	2.5	3.7

Tier 2 Group 2

Name/ Safety Function:	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Number	Question Type	K/A Topic	RO	SRC
Control Rod Drive	0	0	0	0	0	0	0	0	0	0	0	001A2.12	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 / 45.6)	KIA Randomly Rejected	3.6	4.2
Reactor Coolant	0	0	0	0	0	0	0	0	0	0	0	002A2.01	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 / 45.6)	K/A Randomly Rejected	4.3	4.4
Pressurizer Level Control	0	0	0	0	0	0	0	0	0	0	0	011GG2.1.3	This is a Generic, no stem statement is associated	KIA Randomly Rejected		
Rod Position Indication	0	0	0	0	0	0	0	0	0	0	0	014A2.06	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: 42.5 / 45.6)	K/A Randomly Rejected	2.6	3.0
Nuclear instrumentation	0	0	0	0	0	0	0	0	0	0	0			K/A Randomly Rejected	3.4	3.8
Non-nuclear Instrumentation	0	0	0	0	0	0	0	0	0	0	0	016GG2.2.2	This is a Generic, no stem Statement is associated	K/A Randomly Rejected	3.4	4.1
in-core Temperature Monitor	0	0	0	0	0	0	0	0	0	0	0	017A2.02	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 / 45.6)	KIA Randomly Rejected	3.6	4.1
Containment Iodine Removal	0	0	0	0	0	0	0	0	0	0	1	027G2.1.32	This is a Generic, no stem statement is associated.	Ability to explain and apply all system limits and precautions.	3.4	3.8
Hydrogen Recombiner and Purge Control	0	0	0	0	0	0	0	0	0	0	0	028A2.02	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 / 45.6)	KIA Randomly Rejected	3.5	3.9

25 Point Test

Tier 2 Group 2

Name / Safety Function:	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	KIA Number	Question Type	KIA Topic	RO	SRO
Containment Purge	0	0	0	0	0	0	0	0	0	0	0	029A2.01	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 / 95.6)	KIA Randomly Rejected	2.9	3.6
Spent Fuel Pool Cooling	0	0	0	0	0	0	0	0	0	0	0	033GG2.4.4	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	4.0	4.0
Fuel Handling Equipment	0	0	0	0	0	0	0	0	0	0	0	034GG2.4.4	This is a Generic, no stem statement is associated	K/A Randomly Rejected	4.0	4.0
Steam Generator	0	0	0	0	0	0	0	0	0	0	0	035GG2.2.2	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.4	4.1
Steam Dump/Turbine Bypass Control	0	0	0	0	0	0	0	0	0	0	0	041GG2.1.2	This is a Generic, no stem Statement is associated	K/A Randomly Rejected	3.0	4.0
Main Turbine Generator	0	0	0	0	0	0	0	0	0	0	0	045GG2.1.3	This is a Generic, no stem statement is associated	K/A Randomly Rejected	3.4	4.0
Condenser Air Removal	0	0	0	0	0	0	0	0	0	0	0	055GG2.1.2	This is a Generic, no stem statement is associated	K/A Randomly Rejected	3.2	3.3
Liquid Radwaste	0	0	0	0	0	0	0	0	0	0	0	068A2.02	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 / 15.6)	K/A Randomly Rejected	2.7	2.8
Waste Gas Disposal	0	0	0	0	0	0	0	0	0	0	0	071A2.02	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 / 15.6)	K/A Randomly Rejected	3.3	3.6

Tier 2 Group 2

Name / Safety Function:	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	KIA Number	Question Type	KIA Topic		
Area Radiation Monitoring	0	0	0	0	0	0	0	0	0	0	0	072GG2.1.3	This is a Generic. no stem statement is associated.	KIA Randomly Rejected		
Circulating Water	0	0	0	0	0	0	0	1	0	0	0	075A2.02	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 circulating water pumps	25	27
Station Air	0	0	0	0	0	0	0	0	0	0	0	079A2.01	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	KIA Randomly Rejected		
Fire Protection	0	0	0	0	0	0	0	0	0	0	0	086GG2.1.1	This is a Generic, no stem statement is associated	KIA Randomly Rejected		

Tier 3

Category	KA Number	KIA Topic	RO	SRO
Conduct of Operations	G2.15	Ability to locate and use Procedures and directives related to shift staffing and activities	23	34
Conduct of Operations	G2.1.12	Ability to apply technical specifications for a system	29	4
Equipment Control	G2.2.21	Knowledge of pre- and post-maintenance operability requirements	23	35
Equipment Control	G2.2.19	Knowledge of maintenance work order requirements	21	31
Radiation Control	G2.3.3	Knowledge of SRO responsibilities for auxiliary systems that are outside the control room (e.g. waste disposal and handling systems)	18	29
Emergency Procedures/Plan	G2.4.36	Knowledge of chemistry / health physics tasks during emergency operations.	2	28
Emergency Procedures/Plan	G2.4.49	Ability to perform without reference to procedures those tasks that require immediate operation of system components and controls.	4	4

Facility Modified Outline

Facility: <i>M^cGuire</i>		Date of Exam: <i>10-21-2003</i>											Exam Level: _____					
Tier	Group	RO K/A Category Points											SRO-Only Points					
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	Point Total	K	A	A 2	G *	Total
1. Emergency & Abnormal Plant Evolutions	1												2418			7		7
	2											469			3	2	5	
	3											3						
	Tier Totals											497					12	
2. Plant Systems	1											928			3	1	4	
	2											7			1	1	2	
	3											3						
	Tier Totals											4038			4	2	6	
3. Generic Knowledge and Abilities Categories														1	2	3	4	7
			Gen 1	Gen 2	Gen 3	Gen 4						4710	2	2	1	2		

- Note: 1. Ensure that at least two topics from every K/A category are sampled within each tier of the RO or SRQ exam. 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 497 points and the SRQ-only exam must total 25 points.
3. Select topics from many systems and evolutions; avoid selecting more than two or three 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 Piers 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 SRO-applicable license level, and the point totals for each system and category. ~~K/As below 2.5 should be justified on the basis of plant-specific priorities.~~ Enter the 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 gages for RO and SRQ-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/A statements.

McGuire Sample Plan

E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	Imp.	Points	Bank			Source Information						
										Question	Level	Lesson Plan	NRC	Bank	Mkt	New	Memory	Comp	Analysis
000007 Reactor Trip - Stabilization - Recovery / I							Deselected												
000008 Pressurizer Vapor Space Accident / III							Deselected												
000009 Small Break LOCA / III							Deselected												
000011 Large Break LOCA / 3						2.14	Ability to determine and interpret the following as they apply to a Large Break LOCA: Actions to be taken if limits for PTS are violated	4.00	1	1077.00	SRO					X		X	
000015/17 RCP Malfunctions / 4							Deselected												
000022 Loss of Reactor Coolant Makeup / II						2.04	Ability to determine and interpret the following as they apply to the Loss of Reactor Coolant Makeup: How long Pzr level can be maintained within limits.	3.8	1	1056	SRO					X			X
000025 Loss of RHR System / IV							Deselected												
000028 Loss of Component Cooling Water / 8							Deselected												
000027 Pressurizer Pressure Control System Malfunction / 3						2.15	Ability to determine and interpret the following as they apply to the Pressurizer Pressure Control Malfunction: Actions to be taken if PZR pressure instrument fails high.	4.0	1	1033	SRO					X		X	
000029 ATWS							Deselected												
000038 Steam Generator Tube Rupture / IX							Deselected												
000040 W/E12 Steam Line Rupture- Excessive Heat Transfer / 4							Deselected												
000040 W/E12 Steam Line Rupture - Excessive Heat Transfer / 4							Deselected												
000054 Loss of Main Feedwater / IV							Deselected												
000055 Station Blackout / 8							Deselected												
000056 Loss of Offsite Power / 6							Deselected												
000057 Loss of Vital AC Inst Bus / 6						2.18	Ability to determine and interpret the following as they apply to the Loss of Vital AC Instrument Bus: The plant automatic actions that will occur on the loss of a vital ac electrical instrument bus.	4.3	1	1030	SRO					X			X
000058 Loss of DC Power / 8						2.02	Ability to determine and interpret the following as they apply to the Loss of DC Power	3.6	1	881.1	SRO				X			X	
000062 Loss of Nuclear Service Water / 4							Deselected												
000065 Loss of Instrument Air / 8						2.06	Ability to determine and interpret the following as they apply to the Loss of Instrument Air: When to trip the reactor if instrument air pressure is decreasing.	4.2	1	1081	SRO					X	X		

McGuire Sample Plan

E/APE # / Name / Safety Function	K/A Topic(s)							Imp.	Points	Level	Lesson Information							Memory	Comp.	Analysis
	K 1	K 2	K 3	A 1	A 2	G	Bank Question				Lesson Plan	NRC	Bank	Mod	New					
000001 Continuous Rod Withdrawal / 1								Deselected												
000003 Dropped Control Rod / 1								Deselected												
000005 Inoperable/Stuck Control Rod / 1								Deselected												
000024 Emergency Boration / 1								Deselected												
000026 Pressurizer Level Malfunction / 2								Deselected												
000032 Loss of Source Range NI / 7								Deselected												
000033 Loss of Intermediate Range NI / 7								Deselected												
000036 Fuel Handling Accident / 8								Deselected												
000037 Steam Generator Tube Leak								Deselected												
000051 Loss of Condenser Vacuum / IV								Deselected												
000059 Accidental Liquid Rad/Waste Rel / 8						2.02		Ability to determine and interpret the following as they apply to the Accidental Liquid Radwaste Release: The permit for liquid radioactive waste release.	3.9	1	SRO	999.1				X			X	
000060 Accidental Gaseous Radwaste Rel / 8								Deselected												
000061 ARM System Alarms / 7						2.01		Ability to determine and interpret the following as they apply to the Area Radiation Monitoring System Alarms: ARM panel displays	3.7	1	SRO	495.1				X			X	
000067 Plant Fire On-site / 8								Deselected												
000068 Control Room Evac / 8								Deselected												
000069 (WE14) Loss of CTMT Integrity / V								Deselected												
000074 (WE06&E07) Inad. Core Cooling / IV						2.16		Ability to determine and interpret the following as they apply to the (Degraded Core Cooling): Facility conditions and selection of appropriate abnormal and emergency operations.	4.2	1	SRO	186.1					X		X	
000076 High Reactor Coolant Activity / 8								Deselected												
WE01 & E02 Rediagnosis & SI Termination								Deselected												
WE01 & E02 Rediagnosis & SI Termination								Deselected												

McGuire Sample Plan

WE13 Steam Generator Over-pressure / 4						Deselected														
WE15 Containment Flooding						Deselected														
WE18 High Containment Radiation / 9				2.4.8		Knowledge of symptom based mitigation strategies.	4.0	1	SRO	1082					X				X	
BW/A01 Plant Runback / 1						Deselected														
BW/A02 & A03 Loss of NNI / 7						Deselected														
BW/A04 Turbine Trip / 4						Deselected														
BW/A05 Emergency Diesel Actuation / 6						Deselected														
BW/A07 Flooding						Deselected														
BW/E03 Inadequate Subcooling Margin / 4						Deselected														
BW/F08; WE03 LOCA Cooledown - Depress. / 4						Deselected														
BW/E09; CE/A13; WE9&10 Natural Circ. / 4				2.4.50		Ability to verify system alarm setpoints and operate control identified in the alarm response manual.	3.3	1	SRO	871.2					X				X	
BW/E13&14 EOP Rules and Enclosures						Deselected														
CE/A11; WE08 RCS Overcooling - PTS / 4						Deselected														
CE/A16 Excess RCS Leakage / 2						Deselected														
CF/E09 Functional Recovery						Deselected														
K/A Category Totals:																				
						Group Point Total:														

deselect 10/11

** 2.4.50 is 45.3 and not valid.*

McGuire Sample Plan

System # / Name	K	1	K	2	K	3	K	4	K	5	K	6	A	1	A	2	A	3	A	4	G	K/A Topic(s)	Imp.	Points	Level	Bank		Source Information													
																										Question	Lesson Plan	NRC	Bank	Mod	New	Memory	Comp	Analysis							
003 Reactor Coolant Pump															2.01								RCPS, and based on those predictions, use procedures to correct, control or mitigate the consequences. Problems with the RCP east, especially leak off rates.	3.3	1	SRO	1096							X	X						
003 Reactor Coolant Pump																							Deselected																		
004 Chemical Volume and Control																							Deselected																		
005 Residual Heat Removal																							Deselected																		
006 Emergency Core Cooling																							Deselected																		
007 Pressurizer Relief/Quench Tank																							Deselected																		
008 Component Cooling Water																							Deselected																		
010 Pressurizer Pressure Control																							Deselected																		
010 Pressurizer Pressure Control																							Deselected																		
012 Reactor Protection																							Deselected																		
012 Reactor Protection																							Deselected																		
013 Engineered Safety Features Actuation															2.04								ESFAS, and based on those predictions, use procedures to correct, control or mitigate the consequences of those malfunctions or operations. Loss of an instrument bus.	4.2	1	SRO	1076							X	X						
022 Containment Cooling																							Deselected																		
025 Ice Condenser																							Deselected																		
026 Containment Spray																							Deselected																		
026 Containment Spray																							Deselected																		
039 Main and Reheat Steam															2.04								MRSS, and based on predictions, use procedures to correct, control or mitigate the consequences of those malfunctions: Malfunctioning steam dump.	3.7	1	SRO	979.1							X	X						
056 Condensate																							Deselected																		
058 Main Feedwater																							Deselected																		
081 Auxiliary/Emergency Feedwater																							Deselected																		

McGuire Sample Plan

1-3																								
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	Imp.	Points	Level	Question	NRC	Bank	Mod	New	Memory	Comp	Analysis	
001 Control Rod Drive												Deselected												
002 Reactor Coolant												Deselected												
011 Pressurizer Level Control												Deselected												
014 Rod Position Indication												Deselected												
015 Nuclear Instrumentation												Deselected												
016 Non-nuclear instrumentation												Deselected												
017 In-core Temperature Monitor												Deselected												
027 Containment Iodine Removal												2.1 3 Ability to explain and apply all system and limits and precautions.	3.6	1	SRO	1075					X	X		
028 Hydrogen Recombiner and Purge Control												Deselected												
029 Containment Purge												Deselected												
033 Spent Fuel Pool Cooling												Deselected												
034 Fuel Handling Equipment												Deselected												
035 Steam Generator												Deselected												
041 Steam Dump/Turbine Bypass Control												Deselected												
045 Main Turbine Generator												Deselected												
055 Condenser Air Removal												Deselected												
068 Liquid Radwaste												Deselected												
071 Waste Gas Disposal												Deselected												
072 Area Radiation Monitoring												Deselected												
075 Circulating Water												circulating water system; and based on those predictions, use procedures to correct, control or mitigate the consequences of those malfunctions. Loss of circulating water pumps.	2.7	1	SRO	1078					X	X		

McGuire Sample Plan

Category	K/A #	Topic	Imp.	Points	Level	Question	Plan	NRC	Bank	Mod	New	Memory	Comp	Analysis
Conduct of Operations	2.1.5	Ability to locate and use procedures and directives related to shift starting and activities.	3.4	1	SRO	121.1			X				X	
	2.1.12	Ability to apply technical specifications for a system.	4	1	SRO	1079			X				X	
Total														
Equipment Control	2.2.21	Knowledge of pre and post maintenance activities.	3.5	1	SRO	1087					X			X
	2.2.22	Knowledge of limiting conditions for operations and safety limits	4.1	1	SRO	264.1			X			X		
Total														
Radiation Control	2.3.3	Knowledge of SRC responsibilities for auxiliary systems that are outside the control room (e.g. waste disposal and handling systems).	2.9	1	SRO	1085					X	X		
Total														
Emergency Procedures and Plan	2.4.44	Knowledge of emergency plan recommendations	4	1	SRO	210.1			X					X
	2.4.48	Ability to perform without reference to procedures those actions that require immediate operation of systems components and controls.	4	1	SRO	1089			X			X		
Total														

17 SRO K/As to be sampled - 13 will be imported from the RC generic section

