

**Facility:** Cook Nuclear Plant

Printed: 04/12/2010

Date Of Exam: 06/21/2010

Tier	Group	RO K/A Category Points												SRO-Only Points				
		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G*	Total	A2		G*	Total	
1. Emergency & Abnormal Plant Evolutions	1	0	0	0	N/A			0	0	N/A		0	0	3		3	6	
	2	0	0	0				0	0			0	0	2	2	4		
	Tier Totals	0	0	0				0	0			0	0	0	0	5	5	10
2.  Plant Systems	1	0	0	0	0	0	0	0	0	0	0	0	0	3		2	5	
	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	
	Tier Totals	0	0	0	0	0	0	0	0	0	0	0	0	5		3	8	
3. Generic Knowledge And Abilities Categories				1		2		3		4		0		1	2	3	4	7
				0		0		0		0				2	1	2	2	

**Note:**

- 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  $\pm 1$  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/evolutions that are not included on the outline should be added. Refer to Section D.1.b of ES-401 for guidance regarding the 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.
- Absent a plant-specific priority, only those K/As having an importance rating (IR) of 2.5 or higher shall be selected. Use the RO and SRO ratings for the RO and SRO-only portions, respectively.
- Select SRO topics for Tiers 1 and 2 from the shaded systems and K/A categories.
- \* 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. Refer to Section D.1.b of ES-401 for the applicable K/As.
- On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings (IRs) 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; if fuel handling equipment is sampled in other than Category A2 or G\* on the SRO-only exam, enter it on the left side of Column A2 for Tier 2, Group 2 (Note #1 does not apply). Use duplicate pages for RO and SRO-only exams.
- For Tier 3, select topics from Section 2 of the K/A catalog, and enter the K/A numbers, descriptions, IRs, and point totals (#) on Form ES-401-3. Limit SRO selections to K/As that are linked to 10 CFR 55.43.

# PWR SRO Examination Outline

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Facility: Cook Nuclear Plant

ES - 401                      Emergency and Abnormal Plant Evolutions - Tier 1 / Group 1                      Form ES-401-2

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	KA Topic	Imp.	Points
000007 Reactor Trip - Stabilization - Recovery / 1					X		EA2.04 - If reactor should have tripped but has not done so, manually trip the reactor and carry out actions in ATWS EOP	4.4	1
000022 Loss of Rx Coolant Makeup / 2						X	2.4.50 - Ability to verify system alarm setpoints and operate controls identified in the alarm response manual.	4.0	1
000026 Loss of Component Cooling Water / 8					X		AA2.02 - The cause of possible CCW loss	3.6	1
000038 Steam Gen. Tube Rupture / 3					X		EA2.09 - Existence of natural circulation, using plant parameters	4.2	1
000040 Steam Line Rupture - Excessive Heat Transfer / 4						X	2.4.4 - Ability to recognize abnormal indications for system operating parameters that are entry-level conditions for emergency and abnormal operating procedures.	4.7	1
000062 Loss of Nuclear Svc Water / 4						X	2.4.20 - Knowledge of operational implications of EOP warnings, cautions, and notes.	4.3	1
<b>K/A Category Totals:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>Group Point Total:</b>	<b>6</b>	

# PWR SRO Examination Outline

Printed: 04/12/2010

Facility: Cook Nuclear Plant

ES - 401      Emergency and Abnormal Plant Evolutions - Tier 1 / Group 2      Form ES-401-2

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	KA Topic	Imp.	Points
000005 Inoperable/Stuck Control Rod / 1					X		AA2.03 - Required actions if more than one rod is stuck or inoperable	4.4	1
000032 Loss of Source Range NI / 7						X	2.1.7 - Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.	4.7	1
000060 Accidental Gaseous Radwaste Rel. / 9						X	2.4.45 - Ability to prioritize and interpret the significance of each annunciator or alarm.	4.3	1
000069 Loss of CTMT Integrity / 5					X		AA2.01 - Loss of containment integrity	4.3	1
<b>K/A Category Totals:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>Group Point Total:</b>	<b>4</b>	

# PWR SRO Examination Outline

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**ES - 401** **Plant Systems - Tier 2 / Group 1** **Form ES-401-2**

Sys/Evol # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	KA Topic	Imp.	Points
005 Residual Heat Removal											X	2.4.21 - Knowledge of the parameters and logic used to assess the status of safety functions, such as reactivity control, core cooling and heat removal, reactor coolant system integrity, containment conditions, radioactivity release control, etc.	4.6	1
006 Emergency Core Cooling								X				A2.11 - Rupture of ECCS header	4.4	1
008 Component Cooling Water								X				A2.07 - Consequences of high or low CCW flow rate and temperature; the flow rate at which the CCW standby pump will start	2.8*	1
039 Main and Reheat Steam											X	2.2.37 - Ability to determine operability and/or availability of safety related equipment.	4.6	1
061 Auxiliary/Emergency Feedwater								X				A2.04 - pump failure or improper operation	3.8	1
<b>K/A Category Totals:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>Group Point Total:</b>	<b>5</b>	

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ES - 401 Plant Systems - Tier 2 / Group 2 Form ES-401-2

Sys/Evol # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	KA Topic	Imp.	Points
011 Pressurizer Level Control								X				A2.11 - Failure of PZR level instrument - low	3.6	1
034 Fuel Handling Equipment	X											K1.01 - RCS	3.2	1
045 Main Turbine Generator											X	2.4.35 - Knowledge of local auxiliary operator tasks during an emergency and the resultant operational effects.	4.0	1
<b>K/A Category Totals:</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>Group Point Total:</b>	<b>3</b>	