

## **EXAMINATION OUTLINE**

**FOR THE PALISADES RETAKE EXAMINATION - FEBRUARY 2006**

November 22, 2005

NUREG-1021

Mr. Keith Walton  
Nuclear Regulatory Commission  
Region III  
2443 Warrenville Road  
Suite 210  
Lisle, IL 60532-4352

Palisades Nuclear Plant  
Initial License Retake Examination Outline

Nuclear Management Company, LLC, is submitting the initial license retake examination outline, for the Palisades Nuclear Plant, in accordance with NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9. The initial license retake examination is scheduled for February 6, 2006, through February 10, 2006. The following materials are enclosed:

- One Form ES-201-2, Examination Outline Quality Checklist
- One Form ES-401-2 (5 pages), PWR Examination Outline
- One Form ES-401-3, Generic Knowledge and Abilities Outline (Tier 3)
- One Form ES-401-4 (2 pages), Record of Rejected K/As
- Site-specific explanation of K/A sampling process

Pursuant to NUREG-1021, these materials shall be withheld from public disclosure until after the examination is complete.

NOV 28 2005

Mr. Keith Walton

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Please contact Ross Snuggerud at (269) 764-2129 if you have any questions regarding this submittal.

A handwritten signature in black ink, appearing to read "P.A. Harden".

Paul A. Harden

Site Vice President, Palisades Nuclear Plant  
Nuclear Management Company, LLC

2/10/06

Facility: Palisades Date of Examination: 2/6-2/19/06 RAS 11/21/05

Item	Task Description	Initials		
		a	b*	c#
1. W R I T T E N	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.	RAS	AK	RKW
	b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 and whether all K/A categories are appropriately sampled.	RAS	AK	RKW
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	RAS	AK	RKW
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	RAS	AK	RKW
2. S I M U L A T O R	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, technical specifications, and major transients.	N/A	N/A	N/A
	b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity, and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s), and that scenarios will not be repeated on subsequent days.			
	c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D.			
3. W /	a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2: (1) the outline(s) contain(s) the required number of control room and in-plant tasks distributed among the safety functions as specified on the form (2) task repetition from the last two NRC examinations is within the limits specified on the form (3) no tasks are duplicated from the applicants' audit test(s) (4) the number of new or modified tasks meets or exceeds the minimums specified on the form (5) the number of alternate path, low-power, emergency, and RCA tasks meet the criteria on the form.	N/A	N/A	N/A
	b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) the tasks are distributed among the topics as specified on the form (2) at least one task is new or significantly modified (3) no more than one task is repeated from the last two NRC licensing examinations			
	c. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.			
4. G E N E R A L	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.	RAS	AK	RKW
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	RAS	AK	RKW
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	RAS	AK	RKW
	d. Check for duplication and overlap among exam sections.	N/A	N/A	N/A
	e. Check the entire exam for balance of coverage.	RAS	AK	RKW
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	RAS	AK	RKW

a. Author Ross Snuggerud

b. Facility Reviewer (\*) Bruce Bauer

c. NRC Chief Examiner (#) Raymond Keith Walton

d. NRC Supervisor Hironori Peterson

Printed Name/Signature

Date

11/17/05

11/21/05

12/1/05

12/22/05

Note: # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.

Facility: PALISADES		Date of Exam: 02/06 - 02/10/2006																
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	A2	G*	Total		
1. Emergency & Abnormal Plant Evolutions	1	4	1	4	N/A			3	3	N/A			3	18	-	-	6	
	2	2	2	1	N/A			1	1	N/A			2	9	-	-	4	
	Tier Totals	6	3	5	N/A			4	4	N/A			5	27	-	-	10	
2. Plant Systems	1	3	3	3	3	3	3	2	2	2	2	2	28	-	-	5		
	2	1	1	1	1	1	1	1	1	-	1	1	10	-	-	3		
	Tier Totals	4	4	4	4	4	4	3	3	2	3	3	38	-	-	8		
3. Generic Knowledge and Abilities Categories				1		2		3		4		10		1	2	3	4	7
				3		2		2		3				-	-	-	-	
<p>1. 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).</p> <p>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 <math>\pm 1</math> 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.</p> <p>3. 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 ES-401, Attachment 2, for guidance regarding the elimination of inappropriate K/A statements.</p> <p>4. 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.</p> <p>5. 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.</p> <p>6. Select SRO topics for Tiers 1 and 2 from the shaded systems and K/A categories.</p> <p>7. *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.</p> <p>8. 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.</p> <p>9. 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.</p>																		

ES-401		PWR Examination Outline						Form ES-401-2	
Emergency and Abnormal Plant Evolutions - Tier 1/Group 1 (RO / SRO)									
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
000007 (BW/E02&E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1	3						K Operational implication of annunciators	3.0	1
000008 Pressurizer Vapor Space Accident / 3						3. 4	K Radiation exposure and contamination limits	2.5	1
000009 Small Break LOCA / 3					13		A Determine/Interpret charging pump flow	3.4	1
000011 Large Break LOCA / 3				17			A Operate/monitor safety parameter display	3.5	1
000015/17 RCP Malfunctions / 4			2				K CCW lineup to RCP oil coolers	3.0	1
000022 Loss of Rx Coolant Makeup / 2	2						K Operational implications of charging flow to dP	2.7	1
000025 Loss of RHR System / 4	1						K Operational implications of loss RHRS	3.9	1
000026 Loss of Component Cooling Water / 8						4. 11	K Abnormal condition procedures	3.4	1
000027 Pressurizer Pressure Control System Malfunction / 3					16		A Determine/interpret actions PZR inst. failure	3.6	1
000029 ATWS / 1				15			A Operate/monitor AFW wrt ATWS	4.1	1
000038 Steam Gen. Tube Rupture / 3			4				K Automatic Actions of PRM wrt SGTR	3.9	1
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4		1					K Interrelations of ESD and System Components and Features	3.3	1
000054 (CE/E06) Loss of Main Feedwater / 4	2						K Operational Implications Emergency Systems as they apply to Loss of Feedwater	3.2	1
000055 Station Blackout / 6						1. 3	K Shift turnover practices	3.0	1
000056 Loss of Off-site Power / 6					78		A Determine/interpret bus voltmeters	2.7	1
000057 Loss of Vital AC Inst. Bus / 6				5			A Operate/monitor backup instrumentation	3.2	1
000058 Loss of DC Power / 6									
000062 Loss of Nuclear Svc Water / 4			2				K Automatic actions for system during ESFAS	3.6	1
000065 Loss of Instrument Air / 8			8				K Actions contained in EOPs	3.7	1
W/E04 LOCA Outside Containment / 3									
W/E11 Loss of Emergency Coolant Recirc. / 4									
BW/E04; W/E05 Inadequate Heat Txfer - Loss of Secondary Heat Sink / 4									
K/A Category Totals:	4	1	4	3	3	3	Group Point Total:		18/6

ES-401		PWR Examination Outline						Form ES-401-2	
Emergency and Abnormal Plant Evolutions - Tier 1/Group 2 (RO / SRO)									
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
000001 Continuous Rod Withdrawal / 1									
000003 Dropped Control Rod / 1									
000005 Inoperable/Stuck Control Rod / 1									
000024 Emergency Boration / 1									
000028 Pressurizer Level Malfunction / 2									
000032 Loss of Source Range NI / 7									
000033 Loss of Intermediate Range NI / 7									
000036 (BW/A08) Fuel Handling Accident / 8									
000037 Steam Generator Tube Leak / 3									
000051 Loss of Condenser Vacuum / 4									
000059 Accidental Liquid RadWaste Rel. / 9						2.24	A Maintenance affects on LCO status	2.6	
000060 Accidental Gaseous Radwaste Rel. / 9					6		A Determine/Interpret vavle lineups for release	3.6	
000061 ARM System Alarms / 7				1			A Operator/monitor automatic actions	3.6	
000067 Plant Fire On-site / 8			4				K Reasons for Actions in EOP	3.3	
000068 (BW/A06) Control Room Evac. / 8		7					K Relations between evacuation and ED/G	3.3	
000069 (W/E14) Loss of CTMT Integrity / 5	1						K Effect of pressure on leak rate	2.6	
000074 (W/E06&E07) Inad. Core Cooling / 4						2.22	K TS LCO and safety limits.	3.4	
000076 High Reactor Coolant Activity / 9									
W/E01 & E02 Rediagnosis & SI Termination / 3									
W/E13 Steam Generator Over-pressure / 4									
W/E15 Containment Flooding / 5									
W/E16 High Containment Radiation / 9									
BW/A01 Plant Runback / 1									
BW/A02&A03 Loss of NNI-X/Y / 7									
BW/A04 Turbine Trip / 4									
BW/A05 Emergency Diesel Actuation / 6									
BW/A07 Flooding / 8									
BW/E03 Inadequate Subcooling Margin / 4									
BW/E08; W/E03 LOCA Cooledown - Depress. / 4									
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4									
BW/E13&E14 EOP Rules and Enclosures									
CE/A11; W/E08 RCS Overcooling - PTS / 4		1					K Interrelations overcooling and systems comp.	3.2	
CE/A16 Excess RCS Leakage / 2	3						K Operational Implications of annunciators	3.2	
CE/E09 Functional Recovery									
K/A Category Point Totals:	2	2	1	1	1	2	Group Point Total:		9/4

ES-401		PWR Examination Outline Plant Systems - Tier 2/Group 1 (RO / SRO)											Form ES-401-2	
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)	IR	#
003 Reactor Coolant Pump	8	2										K Connections/relations of RCPs and CIS K CCW Pump Bus Power supplies	2.7 2.5	2
004 Chemical and Volume Control		3									3. 11	K Charging Pump Bus Power supplies A Control Radiation releases	3.3 2.7	2
005 Residual Heat Removal						3				4		K Effect of Loss of RHR heat exchangers A Operator/monitor CCW pumps	2.5 3.1	2
006 Emergency Core Cooling					2				1			K Accumulator level and pressure A Monitor Accumulators	2.8 4.0	2
007 Pressurizer Relief/Quench Tank								2				A Predict/mitigate abnormal pressure	2.6	1
008 Component Cooling Water							3					A Predict/monitor CCW control	2.7	1
010 Pressurizer Pressure Control		2				3						K Bus power supplies for PZR spray K Loss/malfunction of heater/spray	2.5 3.2	2
012 Reactor Protection					2							K Operational implications of Pwr Density	3.1	1
013 Engineered Safety Features Actuation				16								K ESFAS feature/interlock to prevent PTS	3.8	1
022 Containment Cooling			1									K Effect of loss of containment Cooling	2.9	1
025 Ice Condenser														
026 Containment Spray	1			1								K Connections between CSS & ECCS K Water supply to CSS including RAS	4.2 4.2	2
039 Main and Reheat Steam			5								3. 10	K Loss of MRSS on RCS A Use procedures to reduce dose	3.6 2.9	2
059 Main Feedwater										11		A Recover from automatic feedwater iso.	3.1	1
061 Auxiliary/Emergency Feedwater	9								5			K Relationship between PRMs and AFW A Monitor for leakage	2.6 2.5	2
062 AC Electrical Distribution								3				A Predict/recover from mis-operation	2.9	1
063 DC Electrical Distribution							1					A Monitor battery discharge rate	2.5	1
064 Emergency Diesel Generator						8						K Loss fo fuel oil storage on ED/G	3.2	1
073 Process Radiation Monitoring					2							K radiation intensity changes on PRM	2.5	1
076 Service Water				2								K Design featurs for start of SWS pumps	2.9	1
078 Instrument Air			2									K Loss of IAS on plant equipment	3.4	1
103 Containment														
K/A Category Point Totals:	3	3	3	3	3	3	2	2	2	2	2	Group Point Total:		28/5



ES-401		PWR Examination Outline Plant Systems - Tier 2/Group 2 (RO / SRO)											Form ES-401-2		
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)	IR	#	
001 Control Rod Drive															
002 Reactor Coolant															
011 Pressurizer Level Control															
014 Rod Position Indication															
015 Nuclear Instrumentation								4				A predict impacts and use procedures	3.3	1	
016 Non-nuclear Instrumentation															
017 In-core Temperature Monitor						1						K Effects of a loss of ITM	2.7	1	
027 Containment Iodine Removal					1							K Operational implications of charcoal filters	3.1	1	
028 Hydrogen Recombiner and Purge Control															
029 Containment Purge			2									K Loss of Containment purge on Cont. entry	2.9	1	
033 Spent Fuel Pool Cooling															
034 Fuel Handling Equipment	2											K Relationship between FHS and RHRS	2.5	1	
035 Steam Generator											4. 11	K Abnormal condition procedures	3.4	1	
041 Steam Dump/Turbine Bypass Control										2		A Monitor/operate ADV/TBV controls	2.7	1	
045 Main Turbine Generator							5					A Monitor MT/G following a trip	3.8	1	
055 Condenser Air Removal															
056 Condensate															
068 Liquid Radwaste				1								K Design/interlock that provide for safety	3.4	1	
071 Waste Gas Disposal															
072 Area Radiation Monitoring															
075 Circulating Water		3										K Bus power supplies for SWS Pumps	2.6	1	
079 Station Air															
086 Fire Protection															
K/A Category Point Totals:	1	1	1	1	1	1	1	1	1		1	1	Group Point Total:		10/3

Facility: Palisades		Date of Exam: 2/06/06 - 2/10/06				
Category	K/A #	Topic	RO		SRO-Only	
			IR	#	IR	#
1. Conduct of Operations	2.1.22	Ability to determine mode of operation	2.8	1		
	2.1.23	Ability to use procedures during all modes of operation	3.9	1		
	2.1.29	Knowledge of how to conduct and verify valve lineups.	3.4	1		
	2.1.					
	2.1.					
	2.1.					
	Subtotal					
2. Equipment Control	2.2.13	Knowledge of tagging and clearance procedures	3.6	1		
	2.2.23	Ability to track limiting conditions of operation	2.6	1		
	2.2.					
	2.2.					
	2.2.					
	2.2.					
	Subtotal					
3. Radiation Control	2.3.4	Knowledge of radiation/contamination limits	2.5	1		
	2.3.10	Ability to use procedures to reduce/guard against exposure	2.9	1		
	2.3.					
	2.3.					
	2.3.					
	2.3.					
	Subtotal					
4. Emergency Procedures / Plan	2.4.7	Knowledge of event based EOP mitigation strategies	3.1	1		
	2.4.13	Knowledge of crew roles during EOP flowchart use.	3.3	1		
	2.4.46	Ability to verify alarms are consistent with plant conditions.	3.5	1		
	2.4.					
	2.4.					
	2.4.					
	Subtotal					
Tier 3 Point Total				10		7

Tier / Group	Randomly Selected K/A	Reason for Rejection
1/1	000009 A2.12	This K/A refers to a charging pump ammeter. Palisades does not have ammeters for its charging pumps. Reselected A2.13 for charging pump flow indications.
1/1	000022 K2	There are no K/As in this category that have an importance of greater than 2.5. The only topic not randomly selected in Tier 1/Group 1 is 000058 Loss of DC Power. This topic also has no items under K2 with importance of greater than 2.5. Reselected within 000022 under K1 (just moved one column to the left).
1/1	000065 K2	There are no K/As in this category that have an importance of greater than 2.5. The only topic not randomly selected in Tier 1/Group 1 is 000058 Loss of DC Power. This topic also has no items under K2 with importance of greater than 2.5. Reselected within 000065 under K3 (just moved one column to the right since I had already selected and extra K1 as described above).
1/2	000037 K2	There are no K/As in this category that have an importance of greater than 2.5. The next topic selected was 000076 High Reactor Coolant Activity. This topic only has one item with an importance of greater than 2.5, AK2.01 Process Radiation Monitors. Palisades has abandoned in place its failed fuel monitor. This same K/A was selected during the development of the CERT exam scheduled for January of 2006. For the CERT exam I wrote a question relating the Off-gas process monitor to changes in reactor coolant activity, assuming a tube leak in the steam generators. Since Palisades doesn't have the piece of equipment this K/A is designed for and since it was already selected for the CERT exam I rejected this K/A. Reselected CE/A11 RCS Overcooling-PTS AK2.01.
1/2	000051 K1	There are no K/As in this category that have an importance of greater than 2.5. Reselected CE/A16 Excess RCS Leakage AK1.03.
1/2	000059 G 2.2.25	This generic K/A is directed at the Tech. Spec. Basis. This is not required knowledge for RO candidates. The K/A is not appropriate for the NCO portion of a written RO exam. Reselected 2.2.24 using same random number with one fewer possible outcomes.
1/2	000074 G 2.2.23	This generic K/A was also selected in Tier 3. It is specific to tracking LCOs which is more a function of the SROs. The importance for a RO candidate is only 2.6. It is our feeling that selecting this item twice on one exam is over emphasizing this topic. Reselected 2.2.22 using same random number with one fewer possible outcomes.
2/1	076 K4.01	This K/A states "Knowledge of SWS design feature(s) and /or interlock(s) which provide for the conditions initiating automatic closure of closed cooling water auxiliary building header supply and return valves." The CCW system at Palisades is the closed loop cooling system. There are header isolation valves that isolate the system from the spent fuel pool and the radwaste evaporators, however these valves only get a closure signal from Safety Injection Actuation. There is no feed to these valves or any other valves in the CCW system from the Service

		Water System. Reselect 076 K4.02
2/1	078 K3.03	This K/A states "Knowledge of the effect that a loss or malfunction of the IAS will have on the Cross-tied units." Palisades is a single Unit site. Reselect 078 K3.02 using same random number with one fewer possible outcomes.
2/1	103 K2	There are no K/As in this category that have an importance of greater than 2.5. Reselected in the first topic in Tier2/Group 1, 003 Reactor Coolant Pump, to only have been selected once. K/A 003 K2.02
2/1	025 K2	Palisades doesn't have Ice Condensers. Reselected in the next topic in Tier 2/Group 1, 004 Chemical and Volume Control, to only have been selected once. K/A 004 K2.03
2/1	022 K6	There are no K/As in this category that have an importance of greater than 2.5. Reselected in the next topic in Tier2/Group 1, 005 Residual Heat Removal, to only have been selected once. K/A 005 K6.03
2/1	025 K5	Palisades doesn't have Ice Condensers. Reselected in the next topic in Tier 2/Group 1, 006 Emergency Core Cooling, to only have been selected once. K/A 006 K5.02
2/1	059 K2	There are no K/As in this category that have an importance of greater than 2.5. Reselected in the next topic in Tier2/Group 1, 008 Component Cooling Water, to only have been selected once. However the only K/A in this topic is for the power supply of the CCW pumps (008 K2.02) This is the same as a previously selected K/A (003 K2.02). So I reselected in the next topic, 010 Pressurizer Pressure Control. K/A 010 K2.02
2/1	059 A4.10	This K/A refers to the ICS (Integrated Control System) - a B&W system that doesn't apply to Palisades. Reselected 059 A4.11 using same random number with one fewer possible outcomes..
2/2	016 A1	There are no K/As in this category that have an importance of greater than 2.5. Reselected in the next topic in Tier2/Group 2, 045 Main Turbine Generator Removal, to only have been selected once. K/A 045 A1.05
2/2	028 K4	There are no K/As in this category that have an importance of greater than 2.5. Reselected in the next topic in Tier2/Group 2, 068 Liquid Radwaste, to only have been selected once. K/A 068 K4.01 NOTE: Topics 055 and 056 were skipped due to not having any items in K4 with importances of greater than 2.5
2/2	033 K2	There are no K/As in this category that have an importance of greater than 2.5. Reselected in the next topic in Tier2/Group 2, 075 Circulating Water, to only have been selected once. K/A 075 K2.03 NOTE: Topics 055, 056, 071, and 072 were skipped due to not having any items in K2 with importances of greater than 2.5
2/2	041 A4.01	This K/A refers to the ICS (Integrated Control System) - a B&W system that doesn't apply to Palisades. Reselected 041 A4.02 using same random number with one fewer possible outcomes..

## Site Specific Explanation of K/A Sampling Process

The K/A's were sampled using the system described below and a list of random numbers generated using the website [www.random.org](http://www.random.org). For any given choice there is a set number of possible outcomes (somewhere between 2 and 50) depending on the decision being made. I generated a list of random numbers. Each number in the list was between 1 and 1000. If it were necessary to choose between 6 outcomes, I would multiply the next number on the list by 6, round up, and divide by 1000. Whatever values this resulted in would be my selection. A printout of the random numbers used to generate this outline is available on request.

K/A's were selected following a diagonal slash from right to left. The starting point of the slash within each tier/group was randomly selected. Within each selected evolution/system the specific K/A was also selected randomly. Once the original starting point was selected for within each tier/group marks were placed in the boxes for the questions on the diagonal that would be sampled as a result. This is important because it means that when a specific K/A for an evolution/system was determined not to have any items with importance greater than 2.5 and a new evolution/system had to be selected, boxes that had dots in them were considered to have been 'selected' already. The starting points for this exam were Tier/Group 1/1 000062 K3, Tier/Group 1/2 000037 K2, Tier/Group 2/1 039 G & 022 K6, Tier/Group 2/2 015 A2, and Tier 3 was section 2.4. Two starting points had to be selected in Tier/Group 2/1 because there are 22 systems and 11 K/A categories this results in overlap using the slash method.

In the event that the sampling process resulted in the selection of a K/A for which no items had an importance greater than a 2.5, the next topic down in the selection process, that had not been selected the maximum number of times was used. This means for Tier 1, Groups 1 and 2 and for Tier 2, Group 2 any topic already selected was not used. For Tier 2, Group 1 any topic already selected 2 times was not used.

When a selected K/A was rejected because it did not apply to Palisades the original random number was reused with the new set of possible outcomes to determine which K/A would be used, except where described on ES-401-4 Record of Rejected K/As.

Finally, for the Generic K/A outline (ES-401-4) I predetermined that the first section selected would get three questions sampled from it, as would the next proceeding section. The two remaining sections each had 2 questions selected from them.

Letter to File,

I received and reviewed the Palisades written retake exam outline the week of December 5, 2005.  
I did not have any comments on the outline.

Russell Kirk Watters