

## **OUTLINE SUBMITTAL**

**FOR THE FERMI RETAKE EXAMINATION - JULY 7, 2003**

Facility: Fermi 2		Date of Examination: 07/07/03		
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 per ES-401.	DS	HA	BP
	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.	DS	HA	BP
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	DS	HA	BP
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	DS	HA	BP
2. S I M	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, 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; ensure 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 scenarios will not be repeated on subsequent days.	N/A	N/A	N/A
	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.	N/A	N/A	N/A
3. W / T	a. Verify that: (1) the outline(s) contain(s) the required number of control room and in-plant tasks, (2) no more than 30% of the test material is repeated from the last NRC examination, (3)* no tasks are duplicated from the applicants' audit test(s), and (4) no more than 80% of any operating test is taken directly from the licensee's exam banks.	N/A	N/A	N/A
	b. Verify that: (1) the tasks are distributed among the safety function groupings as specified in ES-301, (2) one task is conducted in a low-power or shutdown condition, (3) 4 – 6 (2 – 3 for SRO-U) of the tasks require the applicant to implement an alternate path procedure, (4) one in-plant task tests the applicant's response to an emergency or abnormal condition, and (5) the in-plant walk-through requires the applicant to enter the RCA.	N/A	N/A	N/A
	c. Verify that the required administrative topics are covered	N/A	N/A	N/A
	d. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on successive days.	N/A	N/A	N/A
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 section.	DS	HA	NA
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	DS	HA	BP
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	DS	HA	BP
	d. Check for duplication and overlap among exam sections.	DS	HA	NA
	e. Check the entire exam for balance of coverage.	DS	HA	BP
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	DS	HA	BP
a. Author		Printed Name / Signature		Date
b. Facility Reviewer (*)		Stephen D. Bollinger / <i>Stephen D. Bollinger</i>		7/14/03
c. NRC Chief Examiner (#)		Greg Strobel / <i>Greg Strobel</i>		4/15/03
d. NRC Supervisor		Bruce Palagi / <i>Bruce Palagi</i>		4/22/03
		RDS Lanksbury / <i>RDS Lanksbury</i>		4/23/03
Note: * Not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.				

Licensee Submitted Outline - No Comments  
From NRC review *BBP*

ES-401

BWR Examination Outline

Form ES-401-1

Facility: <i>Fermi 2</i>		Date of Exam: 07/07/03																	
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	A 2	G *	Total	
1. Emergency & Abnormal Plant Evolution	1	2	5	4				4	2				3	20	0	0	0	0	N/A
	2	1	1	2				1	2				0	7	0	0	0	0	N/A
	Tier Totals	3	6	6				5	4				3	27	0	0	0	0	N/A
2. Plant Systems	1	2	2	3	3	3	2	3	3	2	1	2	26	0	0	0	0	N/A	
	2	1	0	3	1	1	1	0	0	1	3	1	12	0	0	0	0	N/A	
	Tier Totals	3	2	6	4	4	3	3	3	3	4	3	38	0	0	0	0	N/A	
3. Generic Knowledge and Abilities Categories				1		2		3		4		10	1 2 3 4				N/A		
				3		2		2		3			0 0 0 0						

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  $\pm 1$  from that specified in the table based on NRC revisions. The final exam must total 75 points and the SRO-only exam must total 25 points.

3. Select topics from many systems and evolutions; avoid selecting more than two K/A topics from a given system or evolution unless they relate to plant-specific priorities.

4. Systems/evolutions within each group are identified on the associated outline.

5. The shaded areas are not applicable to the category/tier.

6.\* The generic (G) K/As in Tiers 1 and 2 shall be selected from Section 2 of the K/A Catalog, but the topics must be relevant to the applicable evolution or system. The SRO K/As must also be linked to 10CFR 55.43 or an SRO-level Learning objective.

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

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

9. Refer to ES-401, Attachment 2 for guidance regarding the elimination of inappropriate K/A statements.

E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic	IR	#
295001 Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4 (#1)				01			Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF FORCED CORE FLOW CIRCULATION : (CFR: 41.7 / 45.6) Recirculation System	3.5	1
295003 Partial or Complete Loss of AC / 6 (#2)	04						Knowledge of the operational implications of the following concepts as they apply to PARTIAL OR COMPLETE LOSS OF A.C. POWER : (CFR: 41.8 to 41.10) Electrical bus divisional separation	3.1	1
295004 Partial or Total Loss of DC Pwr / 6 (#3)			03				Knowledge of the reasons for the following responses as they apply to PARTIAL OR COMPLETE LOSS OF D.C. POWER : (CFR: 41.5 / 45.6) Reactor SCRAM	3.1	1
295005 Main Turbine Generator Trip / 3 (#4)	01						Knowledge of the operational implications of the following concepts as they apply to MAIN TURBINE GENERATOR TRIP : (CFR: 41.8 to 41.10) Pressure effects on reactor power	4.0	1
295006 SCRAM / 1 (#5)					05		Ability to determine and/or interpret the following as they apply to SCRAM : (CFR: 41.10 / 43.5 / 45.13) Whether a reactor SCRAM has occurred	4.6	1
(#6)		06					Knowledge of the interrelations between SCRAM and the following: (CFR: 41.7 / 45.8) Reactor power	4.2	1
295016 Control Room Abandonment / 7 (#7)			03				Knowledge of the reasons for the following responses as they apply to CONTROL ROOM ABANDONMENT : (CFR: 41.5 / 45.6) Disabling control room controls	3.5	1
295018 Partial or Total Loss of CCW / 8 (#8)						*	2.4.50 Ability to verify system alarm setpoints and operate controls identified in the alarm response manual.	3.3	1
295019 Partial or Total Loss of Inst. Air / 8 (#9)						*	2.1.32 Ability to explain and apply system limits and precautions. (CFR: 41.10 / 43.2 / 45.12)	3.4	1
295021 Loss of Shutdown Cooling / 4 (#10)				05			Ability to operate and/or monitor the following as they apply to LOSS OF SHUTDOWN COOLING : (CFR: 41.7 / 45.6) Reactor recirculation	3.0	1
295023 Refueling Acc Cooling Mode / 8 (#11)			02				Knowledge of the reasons for the following responses as they apply to REFUELING ACCIDENTS : (CFR: 41.5 / 45.6) Interlocks associated with fuel handling equipment	3.4	1
295024 High Drywell Pressure / 5 (#12)		10					Knowledge of the interrelations between HIGH DRYWELL PRESSURE and the following: (CFR: 41.7 / 45.8) A.C. distribution	3.5	1
295025 High Reactor Pressure / 3 (#13)		04					Knowledge of the interrelations between HIGH REACTOR PRESSURE and the following: (CFR: 41.7 / 45.8) ARI/RPT/ATWS:	3.9	1
295026 Suppression Pool High Water Temp. / 5 (#14)			04				Knowledge of the reasons for the following responses as they apply to SUPPRESSION POOL HIGH WATER TEMPERATURE: (CFR: 41.5 / 45.6) SBLC injection	3.7	1
295028 High Drywell Temperature / 5 (#15)				04			Ability to operate and/or monitor the following as they apply to HIGH DRYWELL TEMPERATURE : (CFR: 41.7 / 45.6) Drywell pressure	3.9	1

ES-401		BWR Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1/Group 1 (RO)						Form ES-401-1	
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic	IR	#
295030 Low Suppression Pool Wtr Lvl / 5 (#16)		08					Knowledge of the interrelations between LOW SUPPRESSION POOL WATER LEVEL and the following: (CFR: 41.7 / 45.8) SRV discharge submergence	3.5	1
295031 Reactor Low Water Level / 2 (#17)		11					Knowledge of the interrelations between REACTOR LOW WATER LEVEL and the following: (CFR: 41.7 / 45.8) Reactor protection system	4.4	1
295037 SCRAM Condition Present and Power Above APRM Downscale or Unknown / 1 (#18)						*	2.4.34 Knowledge of RO tasks performed outside the main control room during emergency operations including system geography and system implications. (CFR: 43.5 / 45.13)	3.8	1
295038 High Off-site Release Rate / 9 (#19)				06			Ability to operate and/or monitor the following as they apply to HIGH OFF-SITE RELEASE RATE : (CFR: 41.7 / 45.6) Plant ventilation	3.5	1
600000 Plant Fire On Site / 8 (#20)						<del>13</del> * 5/5/03	Ability to determine and interpret the following as they apply to PLANT FIRE ON SITE: Need for emergency plant shutdown	3.2	1
K/A Category Totals:	2	5	4	4	2	3	Group Point Total:		20

\* phone call from Steve Bollinger on  
5/5/03 this was a typo.

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**BWR Examination Outline**  
**Emergency and Abnormal Plant Evolutions – Tier 1/Group 2 (RO)**

Form ES-401-1

E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic	IR	#
295002 Loss of Main Condenser Vac / 3							Not Randomly Selected		
295007 High Reactor Pressure / 3							Not Randomly Selected		
295008 High Reactor Water Level / 2 (#21)			05				Knowledge of the reasons for the following responses as they apply to HIGH REACTOR WATER LEVEL : (CFR: 41.5 / 45.6) HPCI turbine trip:	3.5	1
295009 Low Reactor Water Level / 2 (#22)	01						Knowledge of the operational implications of the following concepts as they apply to LOW REACTOR WATER LEVEL : (CFR: 41.8 to 41.10) Steam carryunder	2.7	1
295010 High Drywell Pressure / 5							Not Randomly Selected		
295011 High Containment Temperature / 5							Not Randomly Selected		
295012 High Drywell Temperature / 5 (#23)				01			Ability to operate and/or monitor the following as they apply to HIGH DRYWELL TEMPERATURE : (CFR: 41.7 / 45.6) Drywell ventilation system	3.5	1
295013 High Suppression Pool Temp. / 5							Not Randomly Selected		
295014 Inadvertent Reactivity Addition / 1							Not Randomly Selected		
295015 Incomplete SCRAM / 1							Not Randomly Selected		
295017 High Off-site Release Rate / 9							Not Randomly Selected		
295020 Inadvertent Cont. Isolation / 5 & 7 (#24)		01					Knowledge of the interrelations between INADVERTENT CONTAINMENT ISOLATION and the following: (CFR: 41.7 / 45.8) Main steam system	3.6	1
295022 Loss of CRD Pumps / 1							Not Randomly Selected		
295029 High Suppression Pool Wtr Lvl / 5 (#25)			02				Knowledge of the reasons for the following responses as they apply to HIGH SUPPRESSION POOL WATER LEVEL : (CFR: 41.5 / 45.6) Lowering suppression pool water level	3.6	1
295032 High Secondary Containment Area Temperature / 5 (#26)					03		Ability to determine and/or interpret the following as they apply to HIGH SECONDARY CONTAINMENT AREA TEMPERATURE : (CFR: 41.10 / 43.5 / 45.13) Cause of high area temperature	3.8	1
295033 High Secondary Containment Area Radiation Levels / 9							Not Randomly Selected		
295034 Secondary Containment Ventilation High Radiation / 9							Not Randomly Selected		
295035 Secondary Containment High Differential Pressure / 5 (#27)					01		Ability to determine and/or interpret the following as they apply to SECONDARY CONTAINMENT HIGH DIFFERENTIAL PRESSURE: (CFR: 41.8 to 41.10) Secondary containment pressure:	3.8	1
295036 Secondary Containment High Sump/Area Water Level / 5							Not Randomly Selected		
500000 High CNTMT Hydrogen Conc. / 5							Not Randomly Selected		
K/A Category Totals:	1	1	2	1	2	0	Group Point Total:		7

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**BWR Examination Outline**  
**Emergency and Abnormal Plant Evolutions – Tier 2/Group 1 (RO)**

Form ES-401-1

E/APE # / Name / Safety Function	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic	IR	#
203000 RHR/LPCI: Injection Mode (#28)							02					Ability to predict and/or monitor changes in parameters associated with operating the RHR/LPCI: INJECTION MODE (PLANT SPECIFIC) controls including: (CFR: 41.5 / 45.5) Reactor pressure	3.9	1
205000 Shutdown Cooling (#29)		01										Knowledge of electrical power supplies to the following: (CFR: 41.7) Pump motors	3.1	1
(#30)					02							Knowledge of the operational implications of the following concepts as they apply to SHUTDOWN COOLING SYSTEM (RHR SHUTDOWN COOLING MODE): (CFR: 41.5 / 45.3) Valve operation	2.8	1
206000 HPC (#31)						08						Knowledge of the effect that a loss or malfunction of the following will have on the HIGH PRESSURE COOLANT INJECTION SYSTEM: (CFR: 41.7 / 45.7) Reactor pressure:	3.8	1
209001 LPCS (#32)											*	2.4.2 Knowledge of system set points / interlocks and automatic actions associated with EOP entry conditions. (CFR: 41.7 / 45.7 / 45.8)	3.9	1
(#33)								02				Ability to monitor automatic operations of the LOW PRESSURE CORE SPRAY SYSTEM including: (CFR: 41.7 / 45.7) Pump start	3.8	1
211000 SLC (#34)							02					Ability to (a) predict the impacts of the following on the STANDBY LIQUID CONTROL SYSTEM; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: (CFR: 41.5 / 45.6) Failure of explosive valve to fire	3.6	1
212000 RPS (#35)	02											Knowledge of the physical connections and/or cause effect relationships between REACTOR PROTECTION SYSTEM and the following: (CFR: 41.2 to 41.9 / 45.7 to 45.8) Nuclear boiler instrumentation	3.7	1
215003 IRM (#36)		01										Knowledge of the effect that a loss or malfunction of the INTERMEDIATE RANGE MONITOR (IRM) SYSTEM will have on following: (CFR: 41.7 / 45.4) RPS	3.9	1
215004 Source Range Monitor (#37)			04									Knowledge of SOURCE RANGE MONITOR (SRM) SYSTEM design feature(s) and/or interlocks which provide for the following: (CFR: 41.7) Changing detector position	2.8	1
(#38)								04				Ability to monitor automatic operations of the SOURCE RANGE MONITOR (SRM) SYSTEM including: (CFR: 41.7 / 45.7) Control rod block status	3.6	1
215005 APRM / LPRM (#39)			07									Knowledge of AVERAGE POWER RANGE MONITOR/LOCAL POWER RANGE MONITOR SYSTEM design feature(s) and/or interlocks which provide for the following: (CFR: 41.7) Flow biased trip setpoints	3.7	1

ES-401		BWR Examination Outline Emergency and Abnormal Plant Evolutions – Tier 2/Group 1 (RO)											Form ES-401-1	
E/APE # / Name / Safety Function	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic	IR	#
217000 RCIC (#40)		04										Knowledge of electrical power supplies to the following: (CFR: 41.7) Gland seal compressor (vacuum pump)	2.6	1
218000 ADS (#41)							01					Ability to predict and/or monitor changes in parameters associated with operating the AUTOMATIC DEPRESSURIZATION SYSTEM controls including: (CFR: 41.5 / 45.5) ADS valve tail pipe temperatures	3.4	1
223002 PCIS/Nuclear Steam Supply Shutoff (#42)												2.4.46 Ability to verify that the alarms are consistent with the plant conditions. (CFR: 43.5 / 45.3 / 45.12)	3.5	1
(#43)		19										Knowledge of the physical connections and/or cause effect relationships between PRIMARY CONTAINMENT ISOLATION SYSTEM/NUCLEAR STEAM SUPPLY SHUT-OFF and the following: (CFR: 41.2 to 41.9 / 45.7 to 45.8) Component cooling water systems	2.7	1
239002 SRVs (#44)						01						Knowledge of the operational implications of the following concepts as they apply to RELIEF/SAFETY VALVES : (CFR: 41.5 / 45.3) Relief function of SRV operation	3.4	1
259002 Reactor Water Level Control (#45)										06		Ability to manually operate and/or monitor in the control room: (CFR: 41.7 / 45.5 to 45.8) DP/Single/three element control selector switch:	3.1	1
261000 SGTS (#46)						05						Knowledge of the effect that a loss or malfunction of the following will have on the STANDBY GAS TREATMENT SYSTEM : (CFR: 41.7 / 45.7) Reactor protection system:	3.1	1
262001 AC Electrical Distribution (#47)								02				Ability to (a) predict the impacts of the following on the A.C. ELECTRICAL DISTRIBUTION ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: (CFR: 41.5 / 45.6) Loss of coolant accident	3.6	1
262002 UPS (AC/DC) (#48)					01							Knowledge of UNINTERRUPTABLE POWER SUPPLY (A.C./D.C.) design feature(s) and/or interlocks which provide for the following: (CFR: 41.7) Transfer from preferred power to alternate power Supplies	3.1	1
263000 DC Electrical Distribution (#49)			03									Knowledge of the effect that a loss or malfunction of the D.C. ELECTRICAL DISTRIBUTION will have on following: (CFR: 41.7 / 45.4) Systems with D.C. components (i.e. valves, motors, solenoids, etc.)	3.4	1
264000 EDGs (#50)					06							Knowledge of the operational implications of the following concepts as they apply to EMERGENCY GENERATORS (DIESEL/JET) : (CFR: 41.5 / 45.3) Load sequencing	3.4	1
(#51)								10				Ability to (a) predict the impacts of the following on the EMERGENCY GENERATORS (DIESEL/JET) ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: (CFR: 41.5 / 45.6) LOCA.	3.9	1



ES-401		BWR Examination Outline Emergency and Abnormal Plant Evolutions – Tier 2/Group 1 (RO)											Form ES-401-1	
E/APE # / Name / Safety Function	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic	IR	#
300000 Instrument Air (#52)			02									Knowledge of the effect that a loss or malfunction of the (INSTRUMENT AIR SYSTEM) will have on the following: (CFR: 41.7 / 45.6) Systems having pneumatic valves and controls	3.3	1
400000 Component Cooling Water (#53)							03					Ability to predict and / or monitor changes in parameters associated with operating the CCWS controls including: (CFR: 41.5 / 45.5) CCW Pressure	2.7	1
K/A Category Totals:	2	2	3	3	3	2	3	3	2	1	2	Group Point Total:		26

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**BWR Examination Outline**  
**Emergency and Abnormal Plant Evolutions – Tier 2/Group 2 (RO)**

Form ES-401-1

E/APE # / Name / Safety Function	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic	IR	#
201001 CRD Hydraulic												Not Randomly Selected		
201002 RMCS (#54)	01											Knowledge of the physical connections and/or cause effect relationships between REACTOR MANUAL CONTROL SYSTEM and the following: (CFR: 41.2 to 41.9 / 45.7 to 45.8) Control rod drive hydraulic system	3.2	1
201003 Control Rod and Drive Mechanism												Not Randomly Selected		
201006 RWM												Not Randomly Selected		
202001 Recirculation												Not Randomly Selected		
202002 Recirculation Flow Control												Not Randomly Selected		
204000 RWCU												Not Randomly Selected		
214000 RPIS (#55)									02			Ability to monitor automatic operations of the ROD POSITION INFORMATION SYSTEM including: (CFR: 41.7 / 45.7) Alarm and indicating lights	3.2	1
215001 Traversing In-core Probe												Not Randomly Selected		
215002 RBM												Not Randomly Selected		
216000 Nuclear Boiler Inst. (#56)			24									Knowledge of the effect that a loss or malfunction of the NUCLEAR BOILER instrumentation will have on following: (CFR: 41.7 / 45.4) Vessel level monitoring	3.1	1
219000 RHR/LPCI: Torus/Pool Cooling Mode												Not Randomly Selected		
223001 Primary CTMT and Aux. (#57)										04		Ability to manually operate and/or monitor in the control room: (CFR: 41.7 / 45.5 to 45.8) Containment/drywell hydrogen concentration	3.5	1
226001 RHR/LPCI: CTMT Spray Mode (#58)				05								Knowledge of RHR/LPCI: CONTAINMENT SPRAY SYSTEM MODE design feature(s) and/or interlocks which provide for the following: (CFR: 41.7) Pump minimum flow protection	2.5	1
230000 RHR/LPCI: Torus/Pool Spray Mode												Not Randomly Selected		
233000 Fuel Pool Cooling and Cleanup												Not Randomly Selected		
234000 Fuel Handling Equipment												Not Randomly Selected		
239001 Main and Reheat Steam												Not Randomly Selected		
239003 MSIV Leakage Control												Not Randomly Selected		
241000 Reactor/Turbine Pressure Regulator (#59)						10						Knowledge of the effect that a loss or malfunction of the following will have on the REACTOR/TURBINE PRESSURE REGULATING SYSTEM : (CFR: 41.7 / 45.7) Bypass valves	3.6	1
245000 Main Turbine Gen. and Auxiliaries												Not Randomly Selected		
256000 Reactor Condensate												Not Randomly Selected		

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**BWR Examination Outline**  
**Emergency and Abnormal Plant Evolutions – Tier 2/Group 2 (RO)**

Form ES-401-1

E/APE # / Name / Safety Function	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic	IR	#
259001 Reactor Feedwater (#60)											03	Ability to manually operate and/or monitor in the control room: (CFR: 41.7 / 45.5 to 45.8) Feedwater heater/drain controls	2.9	1
268000 Radwaste												Not Randomly Selected		
271000 Offgas (#61)			01									Knowledge of the effect that a loss or malfunction of the OFFGAS SYSTEM will have on following: (CFR: 41.5 / 45.3) Condenser vacuum	3.5	1
272000 Radiation Monitoring												Not Randomly Selected		
286000 Fire Protection (#62)											05	Ability to manually operate and/or monitor in the control room: (CFR: 41.7 / 45.5 to 45.8) Fire pump	3.3	1
288000 Plant Ventilation												Not Randomly Selected		
290001 Secondary CTMT (#63)			01									Knowledge of the effect that a loss or malfunction of the SECONDARY CONTAINMENT will have on following: (CFR: 41.7 / 45.4) Off-site radioactive release rates	4.0	1
290003 Control Room HVAC (#64)											*	2.4.11 Knowledge of abnormal condition procedures. (CFR: 41.10 / 43.5 / 45.13)	3.4	1
290002 Reactor Vessel Internals (#65)					05							Knowledge of the operational implications of the following concepts as they apply to REACTOR VESSEL INTERNALS : (CFR: 41.5 / 45.3) Brittle fracture	3.1	1
K/A Category Totals:	1	0	3	1	1	1	0	0	1	3	1	Group Point Total:		12

ES-401		Generic Knowledge and Abilities Outline ( Tier 3)			Form ES-401-3	
Facility: <b>Fermi 2</b>		Date of Exam: <b>07/07/03</b>				
Category	K/A#	Topic	RO		SRO-Only	
			IR	#	IR	#
1. Conduct of Operations	2.1.3	Knowledge of shift turnover practices. (CFR: 41.10 / 45.13) (#66)	3.0	1	N/A	N/A
	2.1.22	Ability to determine Mode of Operation. (CFR: 43.5 / 45.13) (#67)	2.8	1	N/A	N/A
	2.1.29	Knowledge of how to conduct and verify valve lineups. (CFR: 41.10 / 45.1 / 45.12) (#68)	3.4	1	N/A	N/A
	Subtotal			3		N/A
2. Equipment Control	2.2.27	Knowledge of the refueling process. (CFR: 43.6 / 45.13) (#69)	2.6	1	N/A	N/A
	2.2.33	Knowledge of control rod programming. (CFR: 43.6) (#70)	2.5	1	N/A	N/A
	Subtotal			2		N/A
3. Radiation Control	2.3.2	Knowledge of facility ALARA program. (CFR: 41.12 / 43.4 / 45.9 / 45.10) (#71)	2.5	1	N/A	N/A
	2.3.9	Knowledge of the process for performing a containment purge. (CFR: 43.4 / 45.10) (#72)	2.5	1	N/A	N/A
	Subtotal			2		N/A
4. Emergency Procedures / Plan	2.4.6	Knowledge symptom based EOP mitigation strategies. (CFR: 41.10 / 43.5 / 45.13) (#73)	3.1	1	N/A	N/A
	2.4.13	Knowledge of crew roles and responsibilities during EOP flowchart use. (CFR: 41.10 / 45.12) (#74)	3.3	1	N/A	N/A
	2.4.26	Knowledge of facility protection requirements including fire brigade and portable fire fighting equipment usage. (CFR: 43.5 / 45.12) (#75)	2.9	1	N/A	N/A
	Subtotal			3		N/A
Tier 3 Point Total				10		N/A