

**NRC-AUTHORED OUTLINE**

**FOR THE LASALLE INITIAL EXAMINATION - APRIL 2002**

Facility:		Date of Examination:			
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.	RKW in	AP	MGB	
	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.	RKW in	AP	MGB	
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	RKW in	AP	MGB	
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	RKW in	AP	MGB	
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.	RKW in	AP	MGB	
	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 over successive days.	RKW in	AP	MGB	
	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.	RKW in	AP	MGB	
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.	RKW in	AP	MGB	
	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) 40% 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.	RKW in	AP	MGB	
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.	RKW in	AP	MGB	
	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.	RKW in	AP	MGB	
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.	RKW in	AP	MGB	
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	RKW in	AP	MGB	
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	RKW in	AP	MGB	
	d. Check for duplication and overlap among exam sections.	RKW in	AP	MGB	
	e. Check the entire exam for balance of coverage.	RKW in	AP	MGB	
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	RKW in	AP	MGB	
a. Author Under Instruction	<u>RAYMOND KEITH WALTON</u> <i>Raymond Walton</i>			Date 3/13/2002	*
a. Author Under Instruction	<u>Christopher G Miller</u> <i>Chris Miller</i>			3/15/2002	*
b. Author of Record (*)	<u>Hyanor Peterson</u> <i>Hyanor Peterson</i>			3/18/2002	*
c. NRC Chief Examiner (#)	<u>Michael E. Bielby</u> <i>Michael E. Bielby</i>			3/27/02	*
d. NRC Supervisor	<u>David E. Mills</u> <i>David Mills</i>			6/13/02	
<p>Note: * Not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.</p>					

\* Original Outline initially reviewed during week of 12/3/01 - returned with comments. Final outline reviewed in March 2002. AP

Facility: LaSalle		Date of Exam: 04/08/02				Exam Level: SRO							
Tier	Group	K/A Category Points											Point Total
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	
1. Emergency & Abnormal Plant Evolutions	1	4	3	7				4	4			4	26
	2	3	4	2				3	3			2	17
	Tier Totals	7	7	9				7	7			6	43
2. Plant Systems	1	2	2	2	1	2	2	4	2	2	2	2	23
	2	1	1	1	2		1		2	2	1	2	13
	3				1	1	1	1					4
	Tier Totals	3	3	3	4	3	4	5	4	4	3	4	40
3. Generic Knowledge and Abilities					Cat 1		Cat 2		Cat 3		Cat 4		17
					4		4		4		5		
<p>Note: 1. Ensure that at least two topics from every K/A category are sampled within each tier (i.e., the "Tier Totals" in each K/A category shall not be less than two).</p> <p>2. Actual point totals must match those specified in the table.</p> <p>3. Select topics from many systems; avoid selecting more than two or three K/A topics from a given system unless they relate to plant-specific priorities.</p> <p>4. Systems/evolutions within each group are identified on the associated outline.</p> <p>5. The shaded areas are not applicable to the category/tier.</p> <p>6.* The generic 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>7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings for the SRO 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 tier totals for each category in the table above.</p>													

ES-401

BWR SRO Examination Outline  
Emergency and Abnormal Plant Evolutions - Tier 1/Group 1

Form ES-401-1

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
295003 Partial or Complete Loss of AC Pwr / 6	06		03				Station Blackout <b>(SRO ONLY)</b> / Load Shedding	4.0/ 3.6	2
295006 SCRAM / 1			06				Recirc Pump Speed Reduction & Reactor Water Level	3.3	1
295007 High Reactor Pressure / 3				03			High Reactor pressure & RCIC Ops	3.5	1
295009 Low Reactor Water Level / 2					03		Reactor Water Level / RWCU Blowdown rate	2.9	1
295010 High Drywell Pressure / 5			01			x	Drywell Ventilation / 2.3.11 - Ability to control radiation releases	4.0/ 3.2	2
295013 High Suppression Pool Temp. / 5			02				Limiting Heat Additions	3.8	1
295014 Inadvertent Reactivity Addition / 1	05						Fuel thermal limits	4.2	1
295015 Incomplete SCRAM / 1		01					CRD Hydraulics	3.9	1
295016 Control Room Abandonment / 7			03				Disabling control room controls	3.7	1
295017 High Off-site Release Rate / 9				09		x	Standby Gas Treatment / FRVS / 2.3.4 - Knowledge of Rad Exposure Limits & Contamination Control <b>(SRO ONLY)</b>	3.8/ 3.1	2
295023 Refueling Accidents / 8		01			04		Fuel Handling Equipment <b>(SRO ONLY)</b> / Occurrence of Fuel Handling Accident <b>(SRO ONLY)</b>	3.7/ 4.1	2
295024 High Drywell Pressure / 5			06				High Drywell Pressure / Reactor Scram	4.1	1
295025 High Reactor Pressure / 3		11		07			Reactor Water Level <b>(SRO ONLY)</b> / High Rx Press ATWS / ARI / RPT	3.6/ 4.1	2
295026 Suppression Pool High Water Temp. / 5			02				Suppression Pool Cooling	4.0	1
295027 High Containment Temperature / 5									
295030 Low Suppression Pool Water Level / 5	03						Heat Capacity	4.1	1
295031 Reactor Low Water Level / 2					04		Adequate core cooling <b>(SRO ONLY)</b>	4.8	1
295037 SCRAM Condition Present and Power Above APRM Downscale or Unknown / 1				06		x x	Neutron Monitoring System <b>(SRO ONLY)</b> / 2.4.18 - Knowledge for Specific Bases for EOPs <b>(SRO ONLY)</b> / 2.1.23 - Perform plant procedures during different Modes of operation	4.1/ 3.6/ 4.0	3
295038 High Off-site Release Rate / 9					01		Offsite <b>(SRO ONLY)</b>	4.3	1
500000 High Containment Hydrogen Conc. / 5	01						High Containment Hydrogen Concentration & Containment Integrity	3.9	1
K/A Category Totals:	4	3	7	4	4	4	Group Point Total:		26

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BWR SRO Examination Outline  
Emergency and Abnormal Plant Evolutions - Tier 1/Group 2

Form ES-401-1

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
295001 Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4	03						Thermal limits	4.1	1
295002 Loss of Main Condenser Vacuum / 3		07					Offgas	3.1	1
295004 Partial or Total Loss of DC Pwr / 6				02			Systems necessary to assure safe S/D	4.1	1
295005 Main Turbine Generator Trip / 3		02					Main Generator Trip / Feedwater Temperature	3.0	1
295008 High Reactor Water Level / 2					02		Steam / Feed Mismatch	3.4	1
295011 High Containment Temperature / 5									
295012 High Drywell Temperature / 5	02						Reactor Power Control	3.2	1
295018 Partial or Total Loss of CCW / 8					03		Cause for Partial or Complete Loss	3.5	1
295019 Partial or Total Loss of Inst. Air / 8						x	2.1.27 - Knowledge of System Purpose and Function	2.9	1
295020 Inadvertent Cont. Isolation / 5 & 7	04						Bottom Head Thermal Stratification	2.8	1
295021 Loss of Shutdown Cooling / 4				04			Alternate Heat Removal	3.7	1
295022 Loss of CRD Pumps / 1		03					Accumulator Pressure	3.4	1
295028 High Drywell Temperature / 5					05		Suppression Chamber Pressure	3.8	1
295029 High Suppression Pool Water Level / 5						x	2.1.12 - Apply Technical Specifications to System <b>(SRO ONLY)</b>	4.0	1
295032 High Secondary Containment Area Temperature / 5				04			Fire Protection	3.4	1
295033 High Secondary Containment Area Radiation Levels / 9		04					Standby Gas Treatment <b>(SRO ONLY)</b>	4.2	1
295034 Secondary Containment Ventilation High Radiation / 9			05				Manual Scram and Depressurization - PS <b>(SRO ONLY)</b>	3.9	1
295035 Secondary Containment High Differential Pressure / 5			01				Blowout Panel Operation	3.1	1
295036 Secondary Containment High Sump/Area Water Level / 5									
600000 Plant Fire On Site / 8									
K/A Category Point Totals:	3	4	2	3	3	2	Group Point Total:		17

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
201005 RCIS														
202002 Recirculation Flow Control									01			Flow Control Valve Operations	3.4	1
203000 RHR/LPCI: Injection Mode										10		Pump / System Discharge Pressure	3.6	1
206000 HPCI														
207000 Isolation (Emergency) Condenser														
209001 LPCS											x	2.1.12 - Technical Specification Entry Conditions (SRO Only)	4.0	1
209002 HPCS	09											Leak Detection	2.5	1
211000 SLC		02										Explosive Valves	3.2	1
212000 RPS			11									Recirculation System	3.3	1
215004 Source Range Monitor					03							Changing Detector Position	2.8	1
215005 APRM / LPRM						03						Detectors	3.3	1
216000 Nuclear Boiler Instrumentation							03					Surveillance Testing (SRO ONLY)	3.2	1
217000 RCIC								15				Steam Line Break	3.8	1
218000 ADS									09			Reactor Vessel Water Level	4.2	1
223001 Primary CTMT and Auxiliaries										13		Primary Containment Hydrogen	3.4	1
223002 PCIS/Nuclear Steam Supply Shutoff											x	2.2.25 T.S. Bases for LCO/Safety Limit (SRO ONLY)	3.7	1
226001 RHR/LPCI: CTMT Spray Mode							10					Emergency Generator Loading	3.2	1
239002 SRVs	08											ADS	4.1	1
241000 Reactor/Turbine Pressure Regulator			17									Turbine Acceleration	2.8	1
259002 Reactor Water Level Control				12								Manual and Auto Control	3.4	1
261000 SGTS						03						EDG	3.1	1
262001 AC Electrical Distribution		01					03					Offsite Sources of Power / Bus Voltage (SRO ONLY)	3.6/ 3.1	2
264000 EDGs					05							Paralleling AC Sources	3.4	1
290001 Secondary CTMT							01	01				System Lineups / Personnel Airlock Failure (SRO ONLY)	3.1/ 3.7	2
K/A Category Point Totals:	2	2	2	1	2	2	4	2	2	2	2	Group Point Total:		23

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
201001 CRD Hydraulic														
201002 RMCS														
201004 RSCS														
201006 RWM														
202001 Recirculation														
204000 RWCU														
205000 Shutdown Cooling											x	2.1.12 ability to apply TS <b>(SRO ONLY)</b>	4.0	1
214000 RPIS										02		Rod Position	3.8	1
215002 RBM									06			Xfer to Alt APRM When Ref Bypassed	2.6	1
215003 IRM				06								Alarm Seal-In	2.6	1
219000 RHR/LPCI: Torus/Pool Cooling Mode								12				Valve Logic Failure	3.1	1
230000 RHR/LPCI: Torus/Pool Spray Mode						04						Keep-Fill System	2.8	1
234000 Fuel Handling Equipment														
239003 MSIV Leakage Control														
245000 Main Turbine Gen. and Auxiliaries				09								Turbine control	3.2	1
259001 Reactor Feedwater		01										Power to RFPs (Motor Only)	3.3	1
262002 UPS (AC/DC)	06											Process Computer	2.7	1
263000 DC Electrical Distribution											x	2.2.12 - Surveillance Procedures <b>(SRO ONLY)</b>	3.4	1
271000 Offgas			02									Malfn of Offgas to offsite radioactive release <b>(SRO ONLY)</b>	3.9	1
272000 Radiation Monitoring									03			Liquid Radwaste Isolation Indications	3.5	1
286000 Fire Protection								08				Failed to Activate when Required	3.3	1
290003 Control Room HVAC														
300000 Instrument Air														
400000 Component Cooling Water														
K/A Category Point Totals:	1	1	1	2		1		2	2	1	2	Group Point Total:		13

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BWR SRO Examination Outline  
Plant Systems - Tier 2/Group 3

Form ES-401-1

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
201003 Control Rod and Drive Mechanism														
215001 Traversing In-core Probe														
233000 Fuel Pool Cooling and Cleanup				03								Maintenance of Adequate Pool Temperature	3.1	1
239001 Main and Reheat Steam					06		10					Pneumatically Operated MSIVs/ Reactor Power	3.9 /3.8	2
256000 Reactor Condensate														
268000 Radwaste														
288000 Plant Ventilation						03						Plant Air Systems	2.7	1
290002 Reactor Vessel Internals														
K/A Category Point Totals:				1	1	1	1					Group Point Total:		4

Plant-Specific Priorities

System / Topic	Recommended Replacement for...	Reason	Points

Plant-Specific Priority Total (limit 10):



Facility: LaSalle Nuclear Station		Date of Exam: 04/06/02		Exam Level: SRO	
Category	K/A #	Topic	Imp.	Points	
Conduct of Operations	2.1.1	Knowledge of the conduct of operations	3.8	1	
	2.1.14	Knowledge of Status which require plant notification	3.3	1	
	2.1.30	Locate/Operate Components Using Local Control	3.4	1	
	2.1.31	Locate Control Room Switches/Control/Indications	3.9	1	
	Total			4	
Equipment Control	2.2.2	Ability to manipulate console controls	3.5	1	
	2.2.13	Knowledge of tagging and clearances	3.8	1	
	2.2.23	Ability to track LCOs	3.8	1	
	2.2.26	Knowledge of refueling administrative requirements <b>(SRO ONLY)</b>	3.7	1	
	Total			4	
Radiation Control	2.3.2	Knowledge of facility ALARA program	2.9	1	
	2.3.4	Knowledge of radiation exposure limits and contamination control/including permissible levels in excess of those authorized	3.1	1	
	2.3.5	Knowledge of use and function of personnel monitoring equipment <b>(SRO ONLY)</b>	2.5	1	
	2.3.10	Procedures to reduce excessive radiation levels	3.3	1	
	Total			4	
Emergency Procedures/ Plan	2.4.1	Knowledge of EOP entry conditions and immediate action steps	4.6	1	
	2.4.3	Identification of Post-Accident Instrumentation	3.8	1	
	2.4.14	Knowledge of general guidelines for EOP flowchart use <b>(SRO ONLY)</b>	3.9	1	
	2.4.21	Knowledge of the parameters and logic used to assess the status of safety functions including react, core cooling and heat removal, RCS integrity, containment and radioactive release control. <b>(SRO ONLY)</b>	4.3	1	
	2.4.44	Knowledge of emergency plan protective action recommendations. <b>(SRO ONLY)</b>	4.0	1	
	Total			5	
Tier 3 Point Total (SRO)				17	

Facility: LaSalle Co. Station			Date of Exam: 04/08/01					Exam Level: RO					
Tier	Group	K/A Category Points											Point Total
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	
1. Emergency & Abnormal Plant Evolutions	1	2	2	3				2	2			2	13
	2	4	3	4				3	3			2	19
	3			1				2	1				4
	Tier Totals	6	5	8				7	6			4	36
2. Plant Systems	1	3	2	3	3	3	3	3	3	2	2	1	28
	2	1	2	1	1	2	2	3	2	2	2	1	19
	3			1	1	1	1						4
	Tier Totals	4	4	5	5	6	6	6	5	4	4	2	51
3. Generic Knowledge and Abilities					Cat 1		Cat 2		Cat 3		Cat 4		13
					4		3		3		3		
<p>Note: 1. Ensure that at least two topics from every K/A category are sampled within each tier (i.e., 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 ±1 from that specified in the table based on NRC revisions. The final exam must total 100 points.</p> <p>3. Select topics from many systems; avoid selecting more than two or three K/A topics from a given system unless they relate to plant-specific priorities.</p> <p>4. Systems/evolutions within each group are identified on the associated outline.</p> <p>5. The shaded areas are not applicable to the category/tier.</p> <p>6.* The generic 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>7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings for the SRO 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 tier totals for each category in the table above.</p>													

ES-401

BWR RO Examination Outline  
Emergency and Abnormal Plant Evolutions - Tier 1/Group 1

Form ES-401-2

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
295005 Main Turbine Generator Trip / 3		02					Main Generator Trip and Feedwater Temperature	2.9	1
295006 SCRAM / 1			06				Reasons for Recirculation Pump Speed Reduction Post-Scram	3.2	1
295007 High Reactor Pressure / 3				03			High Reactor Pressure & RCIC Operation	3.4	1
295009 Low Reactor Water Level / 2					03		Reactor Water Level and RWCU Blowdown Rate	2.9	1
295010 High Drywell Pressure / 5			01			x	Drywell Venting / (2.3.11) Ability to Control Radiation Releases	3.8/ 2.7	2
295014 Inadvertent Reactivity Addition / 1	05						Fuel Thermal Limits	3.7	1
295015 Incomplete SCRAM / 1		01					CRD Hydraulics	3.8	1
295024 High Drywell Pressure / 5			06				High Drywell Pressure Reactor Scram	4.0	1
295025 High Reactor Pressure / 3				07			High Reactor Pressure - ATWS	4.1	1
295031 Reactor Low Water Level / 2					02		Low Reactor Water Level - Reactor Power (RO)	4.0	1
295037 SCRAM Condition Present and Power Above APRM Downscale or Unknown / 1						x	(2.1.23) Performing Plant Procedures during different Modes of Operation	3.9	1
500000 High Containment Hydrogen Conc. / 5	01						Containment Integrity	3.3	1
K/A Category Totals:	2	2	3	2	2	2	Group Point Total:		13

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
295001 Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4	03						Thermal Limits	3.6	1
295002 Loss of Main Condenser Vacuum / 3		07					Offgas System	3.1	1
295003 Partial or Complete Loss of AC Pwr / 6			03				Load Shedding	3.5	1
295004 Partial or Complete Loss of DC Pwr / 6				02			Systems Necessary to Assure Safe Shutdown	3.8	1
295008 High Reactor Water Level / 2					02		Steam Flow/Feed Flow Mismatch	3.4	1
295011 High CTMT Temperature / 5							(Mark III Containment Only)		
295012 High Drywell Temperature / 5	02						Reactor Power Level Control	3.1	1
295013 High Suppression Pool Temp. / 5			02				Limiting Heat Additions	3.6	1
295016 Control Room Abandonment / 7			03				Disabling Control Room Controls	3.5	1
295017 High Off-site Release Rate / 9				09			Standby Gas Treatment System	3.6	1
295018 Partial or Complete Loss of CCW / 8					03		Cause for Partial or Complete Loss of CCW	3.2	1
295019 Part. or Comp. Loss of Inst. Air / 8						x	(2.1.27) Knowledge of System Purpose & Function	2.8	1
295020 Inadvertent Cont. Isolation / 5 & 7	04						Bottom Head Thermal Stratification	2.5	1
295022 Loss of CRD Pumps / 1		03					Accumulator Pressure	3.4	1
295026 High Suppression Pool Water Temp. / 5			02				Suppression Pool Cooling/High Water Temperature	3.9	1
295027 High Containment Temperature / 5							(Mark III Containment Only)		
295028 High Drywell Temperature / 5					05		Suppression Chamber Pressure	3.6	1
295029 High Suppression Pool Water Level / 5						x	(2.1.33) Entry level into Technical Specifications (RO)	3.4	1
295030 Low Suppression Pool Water Level / 5	03						Heat Capacity	3.8	1
295033 High Sec. Cont. Area Rad. Levels / 9		04					Standby Gas Treatment (RO)	3.9	1
295034 Sec. Cont. Ventilation High Rad. / 9				03			Isolating Secondary Cmt Ventilation (RO)	3.8	1
295038 High Off-site Release Rate / 9									
600000 Plant Fire On Site / 8									
K/A Category Point Totals:	4	3	4	3	3	2	Group Point Total:		19

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BWR RO Examination Outline  
Emergency and Abnormal Plant Evolutions - Tier 1/Group 3

Form ES-401-2

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
295021 Loss of Shutdown Cooling / 4				04			Alternate Heat Removal	3.7	1
295023 Refueling Accidents / 8					03		Airborne Contamination Levels (RO)	3.3	1
295032 High Secondary Containment Area Temperature / 5				04			Fire Protection	3.3	1
295035 Secondary Containment High Differential Pressure / 5			01				Blow Out Panel Operation	2.8	1
295036 Secondary Containment High Sump/Area Water Level / 5									
K/A Category Point Totals:	0	0	1	2	1		Group Point Total:		4

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
201001 CRD Hydraulic							07					Reactor Water Level (RO)	3.3	1
201002 RMCS								01				Rod Sequence Timer Malfunction (RO)	2.7	1
201005 RCIS												n/a BWR-5		
202002 Recirculation Flow Control			06						01			Reactor Water Level (RO) / Flow Control Valve Operation	3.7/ 3.6	2
203000 RHR/LPCI: Injection Mode				08						10		Pump Operability Testing (RO) / Pump System Discharge Pressure	3.3/ 3.7	2
206000 HPCI														
207000 Isolation (Emerg.) Condenser														
209001 LPCS					04						x	Heat Removal Transfer Mechanism (RO)/ 2.1.33 Entry Condition into Tech Specs (RO)	2.8/ 3.4	2
209002 HPCS	09					01						Leak Detection / Electrical Power (RO)	2.5/ 3.6	2
211000 SLC		02					07					Explosive Valves / Reactor Power (RO)	3.1/ 4.3	2
212000 RPS			11					16				Recirculation System / Changing Mode Switch Position (RO)	3.0/ 4.0	2
215003 IRM				06								Alarm Seal-In	2.6	1
215004 SRM					03							Changing Detector Position	2.8	1
215005 APRM / LPRM						03						Detectors	3.1	1
216000 Nuclear Boiler Instrumentation							03					Surveillance Testing (RO)	2.9	1
217000 RCIC								15				Steam Line Break	3.8	1
218000 ADS									09			Reactor Vessel Water Level	4.1	1
223001 Primary CTMT and Auxiliaries										13		Primary Containment Hydrogen	3.4	1
223002 PCIS/Nuclear Steam Supply Shutoff	10											Knowledge of connections between PCIS and cntmt ventilation (RO)	3.1	1
239002 SRVs	08											Automatic Depressurization System	4.0	1
241000 Reactor/Turbine Pressure Regulator			17									Turbine Acceleration	2.7	1
259001 Reactor Feedwater		01										Power to Motor Driven Rx FWP's	3.3	1
259002 Reactor Water Level Control				12								Manual and Automatic Control	3.5	1
261000 SGTS						03						Emergency Diesel Generator System	3.0	1
264000 EDGs					05							Paralleling AC Power Supplies	3.4	1
K/A Category Point Totals:	3	2	3	3	3	3	3	3	2	2	1	Group Point Total:		29

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
201003 Control Rod and Drive Mechanism														
201004 RSCS														
201006 RWM														
202001 Recirculation														
204000 RWCU														
205000 Shutdown Cooling											x	2.4.4 Abnormal Indication/Entry Level AOP (RO)	4.0	1
214000 RPIS										02		Control Rod Position	3.8	1
215002 RBM									06			Transfer to Alternate APRM	2.6	1
219000 RHR/LPCI: Torus/Pool Cooling Mode								12				Valve Logic Failure	3.0	1
226001 RHR/LPCI: CTMT Spray Mode							10					Emergency Generator Loading	3.0	1
230000 RHR/LPCI: Torus/Pool Spray Mode						04						Keep Fill System	2.8	1
239001 Main and Reheat Steam					06		10					Pneumatically Operated MSIVs / Reactor Power	2.8/ 3.9	2
245000 Main Turbine Gen. and Auxiliaries				09								Turbine Control	3.1	1
256000 Reactor Condensate														
262001 AC Electrical Distribution		01										Offsite Power Sources	3.3	1
262002 UPS (AC/DC)	06											Process Computer	2.6	1
263000 DC Electrical Distribution		01										Major D.C. loads (RO)	3.0	1
271000 Offgas										05		Station Radiation Release Rate (RO)	3.2	1
272000 Radiation Monitoring									03			Liquid Rad Waste Isolation Indicators	3.1	1
286000 Fire Protection								08				Failed to Activate when Required	3.2	1
290001 Secondary CTMT							01					System Lineups	3.1	1
290003 Control Room HVAC						04						Fire Protection (RO)	2.6	1
300000 Instrument Air					13							Filters (RO)	2.9	1
400000 Component Cooling Water			01									Loads Cooled by RBCCW (RO)	2.9	1
K/A Category Point Totals:	1	2	1	1	2	2	3	2	2	2	1	Group Point Total:		19

ES-401

BWR RO Examination Outline  
Plant Systems - Tier 2/Group 3

Form ES-401-2

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
215001 Traversing In-core Probe														
233000 Fuel Pool Cooling and Cleanup				03								Maintenance of Adequate Pool Temperature	2.8	1
234000 Fuel Handling Equipment			04									Core Modifications/Alterations (RO)	2.9	1
239003 MSIV Leakage Control														
268000 Radwaste					01							Units of Radiation Dose and Dose Rate (RO)	2.7	1
288000 Plant Ventilation						03						Plant Air Systems	2.7	1
290002 Reactor Vessel Internals														

K/A Category Point Totals:			1	1	1	1							Group Point Total:	4
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Plant-Specific Priorities

System / Topic	Recommended Replacement for...	Reason	Points

Plant-Specific Priority Total: (limit 10)



Facility: LaSalle County Station		Date of Exam: 03/08/02		Exam Level: RO	
Category	K/A #	Topic	Imp.	Points	
Conduct of Operations	2.1.1	Knowledge of Conduct of Operations	3.7	1	
	2.1.14	Knowledge of Status which require plant notification	2.5	1	
	2.1.30	Locate/Operate Components Using Local Control	3.9	1	
	2.1.31	Locate Control Room Switches/Controls/Indications	4.2	1	
	Total			4	
Equipment Control	2.2.2	Ability to Manipulate Console Controls	4.0	1	
	2.2.13	Knowledge of Tagging and Clearances	3.6	1	
	2.2.23	Track LCO's	2.6	1	
	Total			3	
Radiation Control	2.3.2	Knowledge of ALARA Program	2.5	1	
	2.3.4	Knowledge of Radiation Exposure Limits	2.5	1	
	2.3.10	Procedures to Reduce Excessive Radiation Levels	2.9	1	
	Total			3	
Emergency Procedures/ Plan	2.4.1	Knowledge of EOP Entry Conditions	4.3	1	
	2.4.3	Identification of Post-Accident Instrumentation	3.5	1	
	2.4.10	Annunciator Response Procedures <b>(RO)</b>	3.0	1	
	Total			3	
Tier 3 Point Total (RO)				13	

Facility: <u>LaSalle County Nuclear Station</u>		Date of Examination: <u>04/08/02</u>
Examination Level (circle one): <input checked="" type="radio"/> RO <input type="radio"/> SRO		Operating Test Number: <u>2002301</u>
<b>Administrative Topic/Subject Description</b>		<b>Describe method of evaluation:</b> 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Conduct of Operations	Conduct of Operations - Overtime Question (2.1.1)
		Conduct of Operations - License Reactivation Question (2.1.1)
	Conduct of Operations	Perform Core Operating Limits Surveillance (2.1.7)
A.2	Equipment Control	Review an Out of Service (2.2.13)
A.3	Radiological Controls	Review a Radiological Work Permit (2.3.10)
A.4	Emergency Plan	NARS Form Notification (2.4.43)

Facility: <u>LaSalle County Nuclear Station</u>		Date of Examination: <u>04/08/02</u>
Examination Level (circle one): RO <input type="checkbox"/> <b>SRO</b> <input checked="" type="checkbox"/>		Operating Test Number: <u>2002301</u>
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Conduct of Operations	Conduct of Operations - Overtime Question (2.1.1)
		Conduct of Operations - License Reactivation Question (2.1.1)
	Conduct of Operations	Review Core Operating Limits Surveillance (2.1.7)
A.2	Equipment Control	Review an Out of Service (2.2.13)
A.3	Radiological Controls	Review a Radiological Work Permit (2.3.10)
A.4	Emergency Plan	Classify GSEP event, Determine PARS and Complete a NARS Form for Transmittal (2.4.38)

Facility: LaSalle County Nuclear Station  
 Exam Level (circle one): RO/SRO-I/ #SRO-U

Date of Examination: 4/8/2002  
 Operating Test No.: 2002301

### B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. Secure 'B' RHR Service Water	S, D	8
b. Transfer TDRFP from Manual Backup Station to 3-Element Control	S, D	2
c. #Turbine Weekly Surveillance Test	S, N	3
d. Stuck Control Rod Drive	S, N, A	1
e. Failure of SBGT to Automatically Initiate	S, N, L, A	9
f. #Shift Electrical Buses 151 and 152 from SAT 142 to UAT 141	S, N, L	6
g. #Reestablish Shutdown Cooling	S, N, L, A	4

### B.2 Facility Walk-Through

a. #Startup RPS MG Set and Transfer Power from Alternate To Normal Source	N	7
b. Start RCIC from Auxiliary Shutdown Panel	D, S	2
c. #Startup and Operate Primary Ctmt Chill Water & Ventilation System	M, R, A	5

\* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA

Facility: LaSalle

Scenario No.: 1

Op-Test No.: 2002301

Examiners: \_\_\_\_\_ Operators: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Initial Conditions: Reactor power 85%. HPCS inop.

Turnover: Perform LOS-RP-Q3, MSIV Scram Functional Test.

Event No.	Malf. No.	Event Type*	Event Description
1		R-RO SRO	Reduce power to 82% with Recirc for MSIV testing.
2		N-BOP SRO	Perform MSIV test, IB MSIV scram solenoids will NOT deenergize.
3		C-BOP SRO	1A RBCCW pump suction strainer hi dP
4		I-RO SRO	1C NR level instrument fails upscale
5		C-BOP SRO	B RWCU pump trips
6		I-RO SRO	1A TDRFP M/A station fails high
7		M-All	FW break in MS tunnel, RCIC fails to start

\* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Facility: LaSalle

Scenario No.: 2

Op-Test No.: 2002301

Examiners: \_\_\_\_\_ Operators: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Initial Conditions: Reactor power 100%. 1B VP Chiller is OOS.

Turnover: Place B RHR in suppression pool cooling due to leaking SRVs.

Event No.	Malf. No.	Event Type*	Event Description
1		N-BOP SRO	Place B RHR in SPC.
2		C-BOP SRO	RB vent exhaust fan trips.
3		C-BOP SRO	SORV, reseal after removing fuses.
4		R-RO SRO	Reduce power with Recirc due to SORV.
5		C-RO SRO	1A RRFCV fails open.
6		I-RO SRO	1A RRP high vibration with winding leakage.
7		M-All	SBLOCA.

\* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Facility: LaSalle

Scenario No.: 3

Op-Test No.: 2002301

Examiners: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Operators: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Initial Conditions: Reactor power 100%. 1B Bus Duct Cooler Fan, Common SA Compressor, and 1B OG Refrigeration Unit OOS.

Turnover: Div II DG surveillance LOS-DG-M2, in progress.

Event No.	Malf. No.	Event Type*	Event Description
1		R-RO SRO	Reduce power with RR.
2		N-BOP SRO	1A DG surveillance.
3		C-BOP SRO	1A DG cooling water pump trip.
4		C-RO SRO	Rod drift.
5		C-BOP SRO	Spurious HPCS initiation.
6		I-BOP SRO	CRD pump trip due to clogged filter.
7		M-All	Required scram and ATWS.
8		C-RO SRO	SBLC squib valves fail to open.

\* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Facility: LaSalle County Station Scenario No.: 4 Op-Test No.: 2002301

Examiners: ! Operators: SRO  
RO  
BOP

Initial Conditions: Reactor power 85%. 'B' IN compressor out of service

Turnover: Perform MSIV Surveillance Test for only 'A' Inboard and Outboard Isolation valves IAW LOS-RP-Q3.

Event No.	Malf. No.	Event Type*	Event Description
1		R (RO)	Reduce Reactor Power using RR flow to less than 82% pwr
2		N (BOP)	Performs LOS-RP-Q3 for 1A Inboard and Outboard MSIVs
3		I (RO)	RR FCV Controller output drifts causing 'B' RR FCV to drift closed, operator may need to decrease RR flow on 'A' RR loop at M/A station
4		C (BOP)	Containment Chill Water Pump 'A' trips
5		I (RO)	'C' APRM Fails Upscale without RPS half-trip
6		C (BOP)	Trip of 'A' Instrument Nitrogen (IN) compressor.
7		M	SBLOCA in Drywell
8		C	Bus 142Y trips

\* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

LGA-001, RPV Control  
LGA-003, Primary Containment Control



Facility: LaSalle

Scenario No.: 5

Op-Test No.: 2002301

Examiners: \_\_\_\_\_ Operators: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Initial Conditions: Reactor power 85%, FCL at 107%. TLO Temperature controller in Manual.

Turnover: Power ascension for load following to be performed this shift. RCIC quarterly surveillance test underway. Shutdown RCIC after test completed. Unit 1 is in a Division 1 Work Week.

Event No.	Malf. No.	Event Type*	Event Description
1		R-RO SRO	Power ascension to 100% using RRFCVs.
2		N-BOP SRO	Shutdown RCIC.
3		I-BOP SRO	RCIC Isolation Valve Failure (1E51-F008 and 1E51-F360 valves didn't close).
4		C-BOP SRO	Loss of MT GS steam.
5			
6		I-RO SRO	CRD FCV fail open.
7		M-All	Large Primary Containment steam leak. Division 1 Containment Monitoring line breaks and inhibits use of Division 1 RHR.

\* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor