

**OUTLINE SUBMITTAL AND NRC COMMENTS**

**FOR THE CLINTON INITIAL EXAMINATION - JULY/AUG 2002**

# AmerGen

An Exelon/British Energy Company

## Clinton Power Station

R.R. 3 Box 228  
Clinton, IL 61727-9351  
Phone: 217 935-8881

U-603547

April 16, 2002

Mr. James E. Dyer  
Regional Administrator  
U. S. Nuclear Regulatory Commission  
801 Warrenville Road  
Lisle, Illinois 60532-4351

Clinton Power Station, Unit 1  
Facility Operating License No. NPF-62  
NRC Docket No. 50-461

Subject: Submittal of Integrated Initial License Training Examination Outline

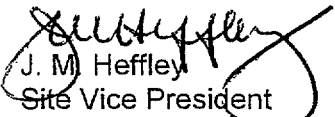
Reference: Letter from D. Hills (U.S. NRC) to J. Skolds (Exelon Generation Company, LLC) dated March 20, 2002

Enclosed are the examination outlines which AmerGen Energy Company (AmerGen), LLC is submitting in support of the Initial License Examination scheduled for the weeks of July 29, 2002 and August 5, 2002 at Clinton Power Station. This submittal includes the Senior Reactor Operator and Reactor Operator Written Examination Outlines, Job Performance Measures Outlines, and Integrated Plant Operation Scenario Outlines.

These examination outlines have been developed in accordance with NUREG-1021, "Operating Licensing Examination Standards," Revision 8, Supplement 1. In accordance with NUREG-1021, Section ES-201, "Initial Operator Licensing Examination Process", please ensure that these materials are withheld from public disclosure until after the examinations are complete.

Should you have any questions related to this information, please contact Mr. Robert Price at (217) 937-4135.

Respectfully,

  
J. M. Heffley  
Site Vice President  
Clinton Power Station

APR 30 2002

Attachments: (Hand delivered to David Pelton, Chief Examiner, NRC Region III)

Examination Security Agreements (Form ES-201-3)  
Administrative Walk-Through Job Performance Measures Sample Plan (Form ES-301-1)  
Control Room Systems and Facility Walk-Through Test Outline (Form ES-301-2)  
SRO Written Exam Sample Plan (Forms ES-401-1 and ES-401-5)  
RO written Exam Sample Plan (Forms ES-401-2 and ES-401-5)  
Record of Rejected K/As, (Form ES401-10)  
Operational Scenarios Sample Plan (Form ES-D-1)  
Completed Checklists: Examination Outline Quality Checklist (Form ES-201-2)  
Transient and Event Checklist (Form ES-301-5)

cc: (cover letter only)  
F. Tsakeres, T-31A  
M. Pacilio, T-31A  
W. Iliff, T-31A  
T. Shortell, V-922

Examination Outline  
Quality Checklist

Facility: Clinton Power Station		Date of Examination: 7/29/2002		
Item	Task Description	Initials		
		a	b*	c#
1. WRITEN	a. Verify that the outline(s) fit(s) the appropriate model per ES-401.	BOP	ES	DM
	b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 and whether all KA categories are appropriately sampled.	BOP	ES	BOP
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	BM	ES	DM
	d. Assess whether the justification for deselected or rejected K/A statements are appropriate.	BOP	ES	DM
2. SIM	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.	BOP	ES	DM
	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.	BOP	ES	DM
	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.	BOP	ES	DM
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. ✓	BOP	ES	DM
	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. ✓	BOP	ES	DM
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.	BOP	ES	DM
	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.	BOP	ES	DM
	e. Check the entire exam for balance of coverage.	BOP	ES	DM
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section.	BOP	ES	DM
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	BOP	ES	DM
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	BOP	ES	DM
	d. Check for duplication and overlap among exam sections.	BOP	ES	DM
	e. Check the entire exam for balance of coverage.	BOP	ES	DM
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	BOP	ES	DM
a. Author		Printed Name / Signature		Date
b. Facility Reviewer (*)		R. Price/ <i>[Signature]</i> R. Brixey/ <i>[Signature]</i>		4/5/02
c. NRC Chief Examiner (#)		P. O'Brien/ <i>[Signature]</i>		4/16/02
d. NRC Supervisor		DAVID L. PELTON/ <i>[Signature]</i> **		5/17/02
		DAVID E. KELLY/ <i>[Signature]</i>		5/17/02
NOTE: * Not applicable for NRC-developed examinations. # Independent NRC Reviewer initial items in Column "c" chief examiner concurrence required.				

\*\* ORIGINAL SIGNED VERSION OF  
THIS FORM WAS LOST DURING  
THE EXAM PROCESS. BOP

**Facility:** Clinton Power Station

Form ES-401-2

**Exam Date:** 07/29/2002**Exam Level:** RO

Tier	Group	K/A Category Points											Point Total
		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	
1. Emergency & Abnormal Plant Evolutions	1	4	3	2				3	1			0	13
	2	3	3	5				4	3			1	19
	3	1	1	0				1	0			1	4
	Totals Tier	8	7	7				8	4			2	36
2. Plant Systems	1	2	2	3	2	3	3	2	3	2	3	3	28
	2	2	2	2	2	2	1	2	3	2	1	0	19
	3	1	0	0	2	0	0	0	1	0	0	0	4
	Tier Totals	5	4	5	6	5	4	4	7	4	4	3	51
3. Generic Knowledge And Abilities					Cat 1		Cat 2		Cat 3		Cat 4		
					3		4		3		3		13

**Note:**

1. Attempt to distribute topics among all K/A Categories; select at least one topic from every K/A category within each tier.
2. Actual point totals must match those specified in the table.
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.
4. Systems/evolutions within each group are identified on the associated outline.
5. The shaded areas are not applicable to the category tier.

Facility: Clinton Power Station

# BWR RO Containment Outline

Printed: 04/10

ES - 401

## Emergency and Abnormal Plant Evolutions - Tier 1 / Group 1

Form ES-401-2

E/APE #	E/APE Name / Safety Function	K1	K2	K3	A1	A2	G	KA Topic	Imp.	Points
295006	SCRAM / 1	X						AK1.03 - Reactivity control	3.7	1
295009	Low Reactor Water Level / 2	X						AK1.01 - Steam carryunder	2.7	1
295010	High Drywell Pressure / 5		X					AK2.03 - Drywell/containment differential pressure: Mark-III	3.0	1
295010	High Drywell Pressure / 5				X			AA1.07 - Containment (drywell) atmosphere control	3.2	1
295014	Inadvertent Reactivity Addition / 1					X		AA2.01 - Reactor power	4.1*	1
295015	Incomplete SCRAM / 1		X					AK2.08 - Neutron monitoring system	3.6	1
295024	High Drywell Pressure / 5	X						EK1.02 - Containment building integrity: Mark-III	3.9	1
295024	High Drywell Pressure / 5				X			EA1.03 - LPCS: Plant-Specific	4.0	1
295025	High Reactor Pressure / 3			X				EK3.06 - Alternate rod insertion: Plant-Specific	4.2*	1
295031	Reactor Low Water Level / 2		X					EK2.01 - Reactor water level indication	4.4*	1
295031	Reactor Low Water Level / 2				X			EA1.08 - Alternate injection systems: Plant-specific	3.8	1
500000	High Containment Hydrogen Concentration / 5	X						EK1.01 - Containment integrity	3.3	1
500000	High Containment Hydrogen Concentration / 5			X				EK3.02 - Operation of drywell recirculating fans	2.8	1

K/A Category Totals: 4 3 2 3 1 0

Group Point Total: 13

## BWR RO Continuation Outline

Printed: 04/10

Facility: Clinton Power Station

ES - 401

## Emergency and Abnormal Plant Evolutions - Tier 1 / Group 2

Form ES-401-2

E/APE #	E/APE Name / Safety Function	K1	K2	K3	A1	A2	G	KA Topic	Imp.	Points
295002	Loss of Main Condenser Vacuum / 3					X		AA2.04 - Offgas system flow	2.8	1
295003	Partial or Complete Loss of A.C. Power / 6					X		AA2.02 - Reactor power, pressure, and level	4.2*	1
295008	High Reactor Water Level / 2		X					AK2.09 - Reactor water cleanup system (ability to drain): Plant-Specific	3.1	1
295012	High Drywell Temperature / 5			X				AK3.01 - Increased drywell cooling	3.5	1
295013	High Suppression Pool Temperature / 5			X				AK3.01 - Suppression pool cooling operation	3.6	1
295016	Control Room Abandonment / 7				X			AA1.06 - Reactor water level	4.0	1
295016	Control Room Abandonment / 7					X		AA2.04 - Suppression pool temperature	3.9	1
295018	Partial or Complete Loss of Component Cooling Water / 8		X					AK2.02 - Plant operations	3.4	1
295026	Suppression Pool High Water Temperature / 5	X						EK1.01 - Pump NPSH	3.0	1
295027	High Containment Temperature (Mark III Containment Only) / 5			X				EK3.01 - Emergency depressurization: Mark-III	3.7	1
295028	High Drywell Temperature / 5						X	2.4.1 - Knowledge of EOP entry conditions and immediate action steps.	4.3	1
295028	High Drywell Temperature / 5			X				EK3.05 - Reactor SCRAM	3.6	1
295029	High Suppression Pool Water Level / 5	X						EK1.01 - Containment integrity	3.4	1
295033	High Secondary Containment Area Radiation Levels / 9				X			EA1.03 - Secondary containment ventilation	3.8	1

# BWR RC Elimination Outline

Printed: 04/1

Facility: Clinton Power Station

ES - 401

Emergency and Abnormal Plant Evolutions - Tier 1 / Group 2

Form ES-401-2

E/APE #	E/APE Name / Safety Function	K1	K2	K3	A1	A2	G	KA Topic	Imp.	Points
295034	Secondary Containment Ventilation High Radiation / 9				X			EA1.05 - Fuel building ventilation: Plant-Specific	3.8	1
295038	High Off-Site Release Rate / 9		X					EK2.05 - †Site emergency plan	3.7	1
295038	High Off-Site Release Rate / 9				X			EA1.01 - Stack-gas monitoring system: Plant-Specific	3.9	1
600000	Plant Fire On Site / 8	X						AK1.02 - Fire Fighting	2.9	1
600000	Plant Fire On Site / 8			X				AK3.04 - Actions contained in the abnormal procedure for plant fire on site	2.8	1

K/A Category Totals: 3 3 5 4 3 1

Group Point Total: 19

Facility: Clinton Power Station

# BWR RC Examination Outline

Printed: 04/1

ES - 401

## Emergency and Abnormal Plant Evolutions - Tier 1 / Group 3

Form ES-401-2

E/APE #	E/APE Name / Safety Function	K1	K2	K3	A1	A2	G	KA Topic	Imp.	Points
295021	Loss of Shutdown Cooling / 4	X						AK1.02 - Thermal stratification	3.3	1
295023	Refueling Accidents / 8						X	2.4.10 - Knowledge of annunciator response procedures.	3.0	1
295035	Secondary Containment High Differential Pressure / 5		X					EK2.01 - Secondary containment ventilation	3.6	1
295036	Secondary Containment High Sump/Area Water Level / 5				X			EA1.03 - Radwaste	2.8	1

K/A Category Totals: 1 1 0 1 0 1

Group Point Total: 4

# BWR RO I Information Outline

Printed: 04/ 2

Facility: Clinton Power Station

ES - 401

Plant Systems - Tier 2 / Group 1

Form ES-401-2

Sys/Ev #	System / Evolution Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	KA Topic	Imp.	Points
201001	Control Rod Drive Hydraulic System / 1									X			A3.07 - HCU accumulator pressure/level	3.3	1
201005	Rod Control and Information System (RCIS) / 1					X							K5.10 - Rod withdrawal limiter: BWR-6	3.2	1
201005	Rod Control and Information System (RCIS) / 1						X						K6.01 - First stage shell pressure or opening of a bypass valve(s): BWR-6	3.2	1
202002	Recirculation Flow Control System / 1								X				A2.02 - Loss of A.C.	2.9	1
203000	RHR/LPCI: Injection Mode (Plant Specific) / 2						X						K6.02 - D.C. electrical power	2.8*	1
209001	Low Pressure Core Spray System / 2		X										K2.02 - Valve power	2.5*	1
209002	High Pressure Core Spray System (HPCS) / 2								X				A2.10 - Valve openings: BWR-5, 6	2.7	1
211000	Standby Liquid Control System / 1		X										K2.02 - Explosive valves	3.1*	1
211000	Standby Liquid Control System / 1							X					A1.06 - Flow indication: Plant-Specific	3.8	1
212000	Reactor Protection System / 7					X							K5.01 - Fuel thermal time constant	2.7	1
212000	Reactor Protection System / 7									X			A3.01 - Reactor power	4.4*	1

215003 Intermediate Range Monitor (IRM) System / 7 X

K1.07 - Reactor vessel

3.0 1

Facility: Clinton Power Station

ES - 401

Plant Systems - Tier 2 / Group 1

Form ES-401-2

Sys/Ev #	System / Evolution Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	KA Topic	Imp.	Points
215003	Intermediate Range Monitor (IRM) System / 7			X									K3.01 - RPS	3.9	1
215004	Source Range Monitor (SRM) System / 7								X				A2.01 - Power supply degraded	2.7	1
215004	Source Range Monitor (SRM) System / 7										X		A4.07 - Verification of proper functioning/ operability	3.4	1
215005	Average Power Range Monitor/Local Power Range Monitor System / 7							X					A1.07 - APRM (gain adjustment factor)	3.0	1
215005	Average Power Range Monitor/Local Power Range Monitor System / 7										X		A4.06 - Verification of proper functioning/ operability	3.6	1
216000	Nuclear Boiler Instrumentation / 7	X											K1.17 - Emergency generators	3.5	1
216000	Nuclear Boiler Instrumentation / 7											X	2.1.27 - Knowledge of system purpose and/or function.	2.8	1
217000	Reactor Core Isolation Cooling System (RCIC) / 2					X							K5.03 - Differential pressure indication	2.6	1
217000	Reactor Core Isolation Cooling System (RCIC) / 2											X	2.1.12 - Ability to apply technical specifications for a system.	2.9	1
218000	Automatic Depressurization System / 3				X								K4.02 - Allows manual initiation of ADS logic	3.8	1
218000	Automatic Depressurization System / 3										X		A4.10 - Lights and alarms	3.8	1

# BWR RO E volution Outline

Printed: 04/

Facility: Clinton Power Station

ES - 401

Plant Systems - Tier 2 / Group 1

Form ES-401-2

Sys/Ev #	System / Evolution Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	KA Topic	Imp.	Points
223001	Primary Containment System and Auxiliaries / 5			X									K3.05 - Containment/drywell oxygen gas concentration	3.1	1
223001	Primary Containment System and Auxiliaries / 5				X								K4.01 - Allows for absorption of the energy released during a LOCA	3.7	1
223002	Primary Containment Isolation System/Nuclear Steam Supply Shut-Off / 5						X						K6.06 - Various process instrumentation	2.8	1
223002	Primary Containment Isolation System/Nuclear Steam Supply Shut-Off / 5											X	2.4.31 - Knowledge of annunciators alarms and indications, and use of the response instructions.	3.3	1
264000	Emergency Generators (Diesel/Jet) / 6			X									K3.02 - A.C. electrical distribution	3.9	1

K/A Category Totals: 2 2 3 2 3 3 2 3 2 3 3

Group Point Total: 28

Facility: Clinton Power Station

ES - 401

Plant Systems - Tier 2 / Group 2

Form ES-401-2

Sys/Ev #	System / Evolution Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	KA Topic	Imp.	Points
201003	Control Rod and Drive Mechanism / 1							X					A1.02 - CRD drive pressure	2.8	1
201003	Control Rod and Drive Mechanism / 1					X							K5.07 - How control rod movements affect core reactivity	3.3	1
202001	Recirculation System / 1								X				A2.20 - Loss of D.C. power: Plant-Specific	2.8	1
202001	Recirculation System / 1		X										K2.01 - Recirculation pumps: Plant-Specific	3.2*	1
204000	Reactor Water Cleanup System / 2			X									K3.04 - Reactor water temperature	2.6	1
214000	Rod Position Information System / 7					X							K5.01 - Reed switches	2.7	1
214000	Rod Position Information System / 7						X						K6.01 - A.C. electrical power	2.5	1
219000	RHR/LPCI: Torus/Suppression Pool Cooling Mode / 5										X		A4.03 - Keep fill system	2.9	1
226001	RHR/LPCI: Containment Spray System Mode / 5	X											K1.04 - A.C. electrical power	3.1	1
226001	RHR/LPCI: Containment Spray System Mode / 5									X			A3.04 - Lights and alarms	3.1	1
239001	Main and Reheat Steam System / 3				X								K4.06 - Allows for removal or prevents escape of radioactive steam from systems that have leaky MSIV's	3.1	1
245000	Main Turbine Generator and Auxiliary Systems / 4			X									K3.02 - Reactor pressure	3.9	1

Facility: Clinton Power Station

ES - 401

Plant Systems - Tier 2 / Group 2

Form ES-401-2

Sys/Ev #	System / Evolution Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	KA Topic	Imp.	Points
256000	Reactor Condensate System / 2				X								K4.04 - Maintenance of water quality	2.7	1
262001	A.C. Electrical Distribution / 6								X				A2.03 - Loss of off-site power	3.9	1
271000	Offgas System / 9							X					A1.01 - Condenser vacuum	3.3	1
272000	Radiation Monitoring System / 7								X				A2.11 - Leakage and/or breaks from contaminated systems to atmosphere or to other process systems	3.4	1
286000	Fire Protection System / 8		X										K2.02 - Pumps	2.9	1
400000	Component Cooling Water System (CCWS) / 8									X			A3.01 - Setpoints on instrument signal levels for normal operations, warnings, and trips that are applicable to the CCWS	3.0	1
400000	Component Cooling Water System (CCWS) / 8	X											K1.03 - Radiation monitoring systems	2.7	1

K/A Category Totals: 2 2 2 2 2 1 2 3 2 1 0

Group Point Total: 19

# BWR RO I Generation Outline

Printed: 04/ 2

Facility: Clinton Power Station

ES - 401

Plant Systems - Tier 2 / Group 3

Form ES-401-2

Sys/Ev #	System / Evolution Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	KA Topic	Imp.	Points
234000	Fuel Handling Equipment / 8				X								K4.02 - †Prevention of control rod movement during core alterations	3.3	1
239003	MSIV Leakage Control System / 9				X								K4.01 - Performance of its safety function following a loss of offsite power: BWR-4, 5, 6(P-Spec)	3.2	1
288000	Plant Ventilation Systems / 9								X				A2.01 - High drywell pressure: Plant-Specific	3.3	1
290002	Reactor Vessel Internals / 5	X											K1.17 - ADS	3.3	1

K/A Category Totals: 1 0 0 2 0 0 0 1 0 0 0

Group Point Total: 4

# Generic Knowledge and Abilities Outline (Tier 3)

Printed: 04/10/200

## BWR RO Examination Outline

Form ES-401-5

**Facility:** Clinton Power Station

Generic Category	KA	KA Topic	Imp.	Points
<b>Conduct of Operations</b>	2.1.30	Ability to locate and operate components, including local controls.	3.9	1
	2.1.12	Ability to apply technical specifications for a system.	2.9	1
	2.1.17	Ability to make accurate, clear and concise verbal reports.	3.5	1
<b>Category Total:</b>				<b>3</b>
<b>Equipment Control</b>	2.2.28	Knowledge of new and spent fuel movement procedures.	2.6	1
	2.2.33	Knowledge of control rod programming.	2.5	1
	2.2.30	Knowledge of RO duties in the control room during fuel handling such as alarms from fuel handling area / communication with fuel storage facility / systems operated from the control room in support of fueling operations / and supporting instrumentation.	3.5	1
	2.2.13	Knowledge of tagging and clearance procedures.	3.6	1
<b>Category Total:</b>				<b>4</b>
<b>Radiation Control</b>	2.3.2	Knowledge of facility ALARA program.	2.5	1
	2.3.10	Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure.	2.9	1
	2.3.9	Knowledge of the process for performing a containment purge.	2.5	1
<b>Category Total:</b>				<b>3</b>
<b>Emergency Plan</b>	2.4.5	Knowledge of the organization of the operating procedures network for normal, abnormal, and emergency evolutions.	2.9	1
	2.4.34	Knowledge of RO tasks performed outside the main control room during emergency operations including system geography and system implications.	3.8	1
	2.4.20	Knowledge of operational implications of EOP warnings, cautions, and notes.	3.3	1
<b>Category Total:</b>				<b>3</b>
<b>Generic Total:</b>				<b>13</b>

Facility: Clinton Power Station

Exam Date: 07/29/2002

Exam Level: SRO

Form ES-401-1

K/A Category Points														Point Total
Tier	Group	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G		
1. Emergency & Abnormal Plant Evolutions	1	5	3	4				5	5			4	26	
	2	3	3	3				2	3			3	17	
	Tier Totals	8	6	7				7	8			7	43	
2. Plant Systems	1	2	2	2	2	2	2	2	2	2	2	3	23	
	2	1	1	1	2	1	1	1	2	1	0	2	13	
	3	1	0	0	1	0	0	1	0	0	0	1	4	
	Tier Totals	4	3	3	5	3	3	4	4	3	2	6	40	
3. Generic Knowledge And Abilities		Cat 1		Cat 2		Cat 3		Cat 4						
		5		4		4		4						

**Note:**

1. Attempt to distribute topics among all K/A Categories; select at least one topic from every K/A category within each tier.
2. Actual point totals must match those specified in the table.
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.
4. Systems/evolutions within each group are identified on the associated outline.
5. The shaded areas are not applicable to the category tier.

Facility: Clinton Power Station

# BWR SRM Examination Outline

Printed: 04/1

ES - 401

## Emergency and Abnormal Plant Evolutions - Tier 1 / Group 1

Form ES-401-1

E/APE #	E/APE Name / Safety Function	K1	K2	K3	A1	A2	G	KA Topic	Imp.	Points
295006	SCRAM / 1	X						AK1.03 - Reactivity control	4.0	1
295009	Low Reactor Water Level / 2	X						AK1.01 - Steam carryunder	2.9	1
295010	High Drywell Pressure / 5		X					AK2.03 - Drywell/containment differential pressure: Mark-III	3.1	1
295010	High Drywell Pressure / 5				X			AA1.07 - Containment (drywell) atmosphere control	3.4	1
295013	High Suppression Pool Temperature / 5			X				AK3.01 - Suppression pool cooling operation	3.8	1
295014	Inadvertent Reactivity Addition / 1					X		AA2.05 - †Violation of safety limits	4.6*	1
295015	Incomplete SCRAM / 1		X					AK2.08 - Neutron monitoring system	3.7	1
295015	Incomplete SCRAM / 1					X		AA2.01 - Reactor power	4.3*	1
295016	Control Room Abandonment / 7				X			AA1.06 - Reactor water level	4.1	1
295016	Control Room Abandonment / 7					X		AA2.04 - Suppression pool temperature	4.1	1
295017	High Off-Site Release Rate / 9					X		AA2.01 - †Off-site release rate: Plant-Specific	4.2*	1
295017	High Off-Site Release Rate / 9						X	2.4.10 - Knowledge of annunciator response procedures.	3.1	1
295023	Refueling Accidents / 8						X	2.4.10 - Knowledge of annunciator response procedures.	3.1	1
295024	High Drywell Pressure / 5	X						EK1.02 - Containment building integrity: Mark-III	4.1	1
295024	High Drywell Pressure / 5				X			EA1.03 - LPCS: Plant-Specific	3.9	1
295025	High Reactor Pressure / 3			X				EK3.06 - Alternate rod insertion: Plant-Specific	4.4*	1

Facility: Clinton Power Station

# BWR SRC Containment Outline

Printed: 04/1

ES - 401

## Emergency and Abnormal Plant Evolutions - Tier 1 / Group 1

Form ES-401-1

E/APE #	E/APE Name / Safety Function	K1	K2	K3	A1	A2	G	KA Topic	Imp.	Points
295026	Suppression Pool High Water Temperature / 5	X						EK1.01 - Pump NPSH	3.4	1
295027	High Containment Temperature (Mark III Containment Only) / 5			X				EK3.01 - Emergency depressurization: Mark-III	3.8	1
295027	High Containment Temperature (Mark III Containment Only) / 5						X	2.4.11 - Knowledge of abnormal condition procedures.	3.6	1
295030	Low Suppression Pool Water Level / 5						X	2.4.1 - Knowledge of EOP entry conditions and immediate action steps.	4.6	1
295031	Reactor Low Water Level / 2		X					EK2.01 - Reactor water level indication	4.4*	1
295031	Reactor Low Water Level / 2				X			EA1.08 - Alternate injection systems: Plant-specific	3.9	1
295038	High Off-Site Release Rate / 9				X			EA1.01 - Stack-gas monitoring system: Plant-Specific	4.2	1
295038	High Off-Site Release Rate / 9					X		EA2.01 - †Off-site	4.3*	1
500000	High Containment Hydrogen Concentration / 5	X						EK1.01 - Containment integrity	3.9	1
500000	High Containment Hydrogen Concentration / 5			X				EK3.02 - Operation of drywell recirculating fans	3.0	1

K/A Category Totals: 5 3 4 5 5 4

Group Point Total: 26

Facility: Clinton Power Station

# BWR SRC Minimization Outline

Printed: 04/1

ES - 401

## Emergency and Abnormal Plant Evolutions - Tier 1 / Group 2

Form ES-401-1

E/APE #	E/APE Name / Safety Function	K1	K2	K3	A1	A2	G	KA Topic	Imp.	Points
295004	Partial or Complete Loss of D.C. Power / 6					X		AA2.02 - Extent of partial or complete loss of D.C. power	3.9	1
295004	Partial or Complete Loss of D.C. Power / 6						X	2.4.11 - Knowledge of abnormal condition procedures.	3.6	1
295008	High Reactor Water Level / 2		X					AK2.09 - Reactor water cleanup system (ability to drain): Plant-Specific	3.1	1
295012	High Drywell Temperature / 5			X				AK3.01 - Increased drywell cooling	3.6	1
295012	High Drywell Temperature / 5					X		AA2.01 - Drywell temperature	3.9	1
295018	Partial or Complete Loss of Component Cooling Water / 8		X					AK2.02 - Plant operations	3.6	1
295019	Partial or Complete Loss of Instrument Air / 8					X		AA2.01 - Instrument air system pressure	3.6	1
295021	Loss of Shutdown Cooling / 4	X						AK1.02 - Thermal stratification	3.4	1
295022	Loss of CRD Pumps / 1						X	2.4.10 - Knowledge of annunciator response procedures.	3.1	1
295028	High Drywell Temperature / 5			X				EK3.05 - Reactor SCRAM	3.7	1
295029	High Suppression Pool Water Level / 5	X						EK1.01 - Containment integrity	3.7	1
295033	High Secondary Containment Area Radiation Levels / 9						X	2.4.10 - Knowledge of annunciator response procedures.	3.1	1
295034	Secondary Containment Ventilation High Radiation / 9				X			EA1.05 - Fuel building ventilation: Plant-Specific	3.8	1
295035	Secondary Containment High Differential Pressure / 5		X					EK2.01 - Secondary containment ventilation	3.6	1

Facility: Clinton Power Station

# BWR SRC Elimination Outline

Printed: 04/10/2002

ES - 401

## Emergency and Abnormal Plant Evolutions - Tier 1 / Group 2

Form ES-401-1

E/APE #	E/APE Name / Safety Function	K1	K2	K3	A1	A2	G	KA Topic	Imp.	Points
295036	Secondary Containment High Sump/Area Water Level / 5				X			EA1.03 - Radwaste	3.0	1
600000	Plant Fire On Site / 8	X						AK1.02 - Fire Fighting	3.1	1
600000	Plant Fire On Site / 8			X				AK3.04 - Actions contained in the abnormal procedure for plant fire on site	3.4	1

K/A Category Totals: 3 3 3 2 3 3

Group Point Total: 17

Facility: Clinton Power Station

ES - 401

Plant Systems - Tier 2 / Group 1

Form ES-401-1

Sys/Ev #	System / Evolution Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	KA Topic	Imp.	Points
201005	Rod Control and Information System (RCIS) / 1					X							K5.10 - Rod withdrawal limiter: BWR-6	3.3	1
201005	Rod Control and Information System (RCIS) / 1						X						K6.01 - First stage shell pressure or opening of a bypass valve(s): BWR-6	3.2	1
209001	Low Pressure Core Spray System / 2											X	2.1.33 - Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.	4.0	1
209001	Low Pressure Core Spray System / 2		X										K2.02 - Valve power	2.7*	1
211000	Standby Liquid Control System / 1		X										K2.02 - Explosive valves	3.2*	1
211000	Standby Liquid Control System / 1							X					A1.06 - Flow indication: Plant-Specific	3.9	1
212000	Reactor Protection System / 7					X							K5.01 - Fuel thermal time constant	2.9	1
212000	Reactor Protection System / 7									X			A3.01 - Reactor power	4.4*	1
215004	Source Range Monitor (SRM) System / 7								X				A2.01 - Power supply degraded	2.9	1
215004	Source Range Monitor (SRM) System / 7										X		A4.07 - Verification of proper functioning/ operability	3.6	1
215005	Average Power Range Monitor/Local Power Range Monitor System / 7							X					A1.07 - APRM (gain adjustment factor)	3.4	1
216000	Nuclear Boiler Instrumentation / 7	X											K1.17 - Emergency generators	3.7	1

Facility: Clinton Power Station

ES - 401

Plant Systems - Tier 2 / Group 1

Form ES-401-1

Sys/Ev #	System / Evolution Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	KA Topic	Imp.	Points
218000	Automatic Depressurization System / 3				X								K4.02 - Allows manual initiation of ADS logic	4.0	1
218000	Automatic Depressurization System / 3										X		A4.10 - Lights and alarms	3.8	1
223001	Primary Containment System and Auxiliaries / 5			X									K3.05 - Containment/drywell oxygen gas concentration	3.2	1
223001	Primary Containment System and Auxiliaries / 5				X								K4.01 - Allows for absorption of the energy released during a LOCA	3.8	1
223002	Primary Containment Isolation System/Nuclear Steam Supply Shut-Off / 5											X	2.1.11 - Knowledge of less than one hour technical specification action statements for systems.	3.8	1
223002	Primary Containment Isolation System/Nuclear Steam Supply Shut-Off / 5						X						K6.06 - Various process instrumentation	2.9	1
226001	RHR/LPCI: Containment Spray System Mode / 5	X											K1.04 - A.C. electrical power	3.3	1
226001	RHR/LPCI: Containment Spray System Mode / 5									X			A3.04 - Lights and alarms	3.1	1
262001	A.C. Electrical Distribution / 6								X				A2.03 - Loss of off-site power	4.3*	1
264000	Emergency Generators (Diesel/Jet) / 6											X	2.2.22 - Knowledge of limiting conditions for operations and safety limits.	4.1	1
264000	Emergency Generators (Diesel/Jet) / 6			X									K3.02 - A.C. electrical distribution	4.0	1

Form ES-401-1

Sys/Ev #	System / Evolution Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	KA Topic	Imp.	Points
K/A Category Totals:		2	2	2	2	2	2	2	2	2	2	3		Group Point Total:	23

# BWR SRO Continuation Outline

Printed: 04, 1992

Facility: Clinton Power Station

ES - 401

Plant Systems - Tier 2 / Group 2

Form ES-401-1

Sys/Ev #	System / Evolution Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	KA Topic	Imp.	Points
202001	Recirculation System / 1								X				A2.20 - Loss of D.C. power: Plant-Specific	2.9	1
214000	Rod Position Information System / 7					X							K5.01 - Reed switches	2.8	1
214000	Rod Position Information System / 7						X						K6.01 - A.C. electrical power	2.6	1
215003	Intermediate Range Monitor (IRM) System / 7	X											K1.07 - Reactor vessel	3.0	1
215003	Intermediate Range Monitor (IRM) System / 7			X									K3.01 - RPS	4.0	1
234000	Fuel Handling Equipment / 8				X								K4.02 - †Prevention of control rod movement during core alterations	4.1	1
239003	MSIV Leakage Control System / 9											X	2.4.10 - Knowledge of annunciator response procedures.	3.1	1
239003	MSIV Leakage Control System / 9				X								K4.01 - Performance of its safety function following a loss of offsite power: BWR-4, 5, 6(P-Spec)	3.5	1
271000	Offgas System / 9							X					A1.01 - Condenser vacuum	3.2	1
272000	Radiation Monitoring System / 7											X	2.1.33 - Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.	4.0	1
272000	Radiation Monitoring System / 7								X				A2.11 - Leakage and/or breaks from contaminated systems to atmosphere or to other process systems	3.7	1

Facility: Clinton Power Station

ES - 401

Plant Systems - Tier 2 / Group 2

Form ES-401-1

Sys/Ev #	System / Evolution Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	KA Topic	Imp.	Points
286000	Fire Protection System / 8		X										K2.02 - Pumps	3.1	1
400000	Component Cooling Water System (CCWS) / 8									X			A3.01 - Setpoints on instrument signal levels for normal operations, warnings, and trips that are applicable to the CCWS	3.0	1

K/A Category Totals: 1 1 1 2 1 1 1 2 1 0 2

Group Point Total: 13

# BWR SRO Examination Outline

Printed: 04, J2

Facility: Clinton Power Station

ES - 401

Plant Systems - Tier 2 / Group 3

Form ES-401-1

Sys/Ev #	System / Evolution Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	KA Topic	Imp.	Points
201003	Control Rod and Drive Mechanism / 1							X					A1.02 - CRD drive pressure	2.8	1
239001	Main and Reheat Steam System / 3				X								K4.06 - Allows for removal or prevents escape of radioactive steam from systems that have leaky MSIV's	3.2	1
290002	Reactor Vessel Internals / 5											X	2.2.22 - Knowledge of limiting conditions for operations and safety limits.	4.1	1
290002	Reactor Vessel Internals / 5	X											K1.17 - ADS	3.4	1

K/A Category Totals: 1 0 0 1 0 0 1 0 0 0 1

Group Point Total: 4

## BWR SRO Examination Outline

Form ES-401-5

**Facility:** Clinton Power Station

Generic Category	KA	KA Topic	Imp.	Points
<b>Conduct of Operations</b>	2.1.33	Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.	4.0	1
	2.1.20	Ability to execute procedure steps.	4.2	1
	2.1.30	Ability to locate and operate components, including local controls.	3.4	1
	2.1.12	Ability to apply technical specifications for a system.	4.0	1
	2.1.17	Ability to make accurate, clear and concise verbal reports.	3.6	1
<b>Category Total:</b>				<b>5</b>
<b>Equipment Control</b>	2.2.26	Knowledge of refueling administrative requirements.	3.7	1
	2.2.25	Knowledge of bases in technical specifications for limiting conditions for operations and safety limits.	3.7	1
	2.2.28	Knowledge of new and spent fuel movement procedures.	3.5	1
	2.2.33	Knowledge of control rod programming.	2.9	1
<b>Category Total:</b>				<b>4</b>
<b>Radiation Control</b>	2.3.8	Knowledge of the process for performing a planned gaseous radioactive release.	3.2	1
	2.3.1	Knowledge of 10 CFR 20 and related facility radiation control requirements.	3.0	1
	2.3.2	Knowledge of facility ALARA program.	2.9	1
	2.3.10	Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure.	3.3	1
<b>Category Total:</b>				<b>4</b>

# Generic Knowledge Abilities Outline (Tier 3)

Printed: 04/10/2006

## BWR SRO Examination Outline

Form ES-401-5

**Facility:** Clinton Power Station

Generic Category	KA	KA Topic	Imp.	Points
------------------	----	----------	------	--------

Emergency Plan	2.4.34	Knowledge of RO tasks performed outside the main control room during emergency operations including system geography and system implications.	3.6	1
	2.4.20	Knowledge of operational implications of EOP warnings, cautions, and notes.	4.0	1
	2.4.4	Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.	4.3	1
	2.4.5	Knowledge of the organization of the operating procedures network for normal, abnormal, and emergency evolutions.	3.6	1

**Category Total:** 4

**Generic Total:** 17

Facility: Clinton Power StationDate of Examination: 7/29/2002Examination Level (circle one): RO / SROOperating Test Number: ILT0101-1

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Conduct of Operations Procedure Limitations	JPM - Perform PMT startup of SX pump, Fails to Start on First Attempt, Starts on Second Attempt (faulted) K/A 2.1.32 Imp 3.4
	Conduct of Operations Shift Turnover	JPM - Perform a MCR Panel Walkdown. K/A 2.1.33 Imp 3.4
A.2	Equipment Control Tagging and Clearances	JPM - Remove an Annunciator from Service. K/A 2.2.11 Imp 2.5
A.3	Radiation Control Control of Radiation Release	JPM - Respond to a VC Hi Radiation alarm, VC fails to shift to Hi Radiation Mode (faulted). K/A 2.3.10 Imp 2.9
A.4	Emergency Plan Emergency Communications	JPM - Make a Plant Announcement for FIRE in the Paint and Oil Storage Room with Area Evacuation. K/A 2.4.43 Imp 2.8

Facility: Clinton Power StationDate of Examination: 7/29/2002Examination Level (circle one): RO / SROOperating Test Number: ILT0101-2

	Administrative Topic/Subject Description	Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Conduct of Operations Fuel Handling	JPM - Perform Core Alteration Surveillance Log (faulted).  K/A 2.1.31 Imp 4.2
	Conduct of Operations Plant Parameter Verification	JPM - Determine if Power, Flow or Core Thermal Limits have been Exceeded (faulted).  K/A 2.1.19 Imp 3.0
A.2	Equipment Control Surveillance Testing	JPM - Calculate Reactor Coolant System Leakage  K/A 2.2.12 Imp 3.0
		JPM - Determine Entry Requirements into a Contamination Area  K/A 2.3.1 Imp 2.6
A.4	Emergency Plan Emergency Communications	JPM - Perform a Plant Assembly Announcement  K/A 2.4.43 Imp 2.8

Facility: Clinton Power StationDate of Examination: 7/29/2002Examination Level (circle one): RO / SROOperating Test Number: ILT0101-3

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Conduct of Operations	JPM - Perform Offsite Source Power Verification.
	Plant Parameter Verification	K/A 2.1.31 Imp 4.2
	Conduct of Operations	JPM - Determine Requirements for LPCS Watertight Door to Remain Open.
	Short Term Information	K/A 2.1.1 Imp 3.7
A.2	Equipment Control	JPM - Perform the Restoration Section of Control Rod/Position Indication Operability (faulted).
	Surveillance Testing	K/A 2.2.12 Imp 3.0
A.3	Radiation Control	JPM - Secure a mechanical vacuum pump on High Radiation Signal in HVAC stack
	Control of Radiation Release	K/A 2.3.10 Imp 2.9
A.4	Emergency Plan	JPM - Record information from a Seismic Recorder Activation.
	Emergency Communications	K/A 2.4.50 Imp 3.3

Facility: Clinton Power Station

Date of Examination: 7/29/2002

Examination Level (circle one): RO / **SRO**Operating Test Number: **ILT0101-1**

	Administrative Topic/Subject Description	Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Conduct of Operations  Reporting Requirements	JPM – Determine Reporting requirements.  K/A 2.1.14 Imp 3.3
	Conduct of Operations  Plant Parameter Verification	JPM - Review a Valve Lineup for Error Identification. (faulted)  K/A 2.1.29 Imp 3.3
A.2	Equipment Control	JPM - Review an Annunciator Log entry for an Annunciator that is being taken OOS (faulted).  K/A 2.2.11 Imp 3.4
	Tagging and Clearances	
A.3	Radiation Control  Ability to Perform Procedures to Reduce Personnel Exposure	JPM - Redirect Workers in a High Radiation Area.  K/A 2.3.10 Imp 3.3
A.4	Emergency Plan  Emergency Protective Action Recommendations	JPM - Determine the PAR of evacuate 2 mile radius & 5 miles downwind  K/A 2.4.44 Imp 4.0

Facility: Clinton Power StationDate of Examination: 7/29/2002Examination Level (circle one): RO / **SRO**Operating Test Number: **ILT0101-2**

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Conduct of Operations Fuel Handling	JPM – Review and determine if fuel moves can continue  K/A 2.1.7 Imp 4.4
	Conduct of Operations Plant Parameter Verification	JPM - Determine if Power, Flow or Core Thermal limits have been exceeded (faulted)  K/A 2.1.19 Imp 3.0
A.2	Equipment Control Surveillance Testing	JPM - Review and Find Calculation Errors / Missed Out of Specification Leakage Rate (faulted)  K/A 2.2.12 Imp 3.4
A.3	Radiation Control Exposure Limits	JPM – Request Radiation Exposure Extension  K/A 2.3.1 Imp 3.0
A.4	Emergency Plan Lines of Authority During an Emergency	JPM – Transfer Command and Control to the TSC  K/A 2.4.38 Imp 4.0

Facility: Clinton Power StationDate of Examination: 7/29/2002Examination Level (circle one): RO / SROOperating Test Number: ILT0101-3

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Conduct of Operations	JPM - Review an Offsite Source Power Verification with Out of Specification Readings. (faulted)
	Plant Parameter Verification	K/A 2.1.33 Imp 4.0
	Conduct of Operations	JPM - Review a completed Control Rod / Position Indication Operability Surveillance and Identify Discrepancies (faulted).
	Surveillance Testing	K/A 2.1.12 Imp 4.0
A.2	Equipment Control	JPM - Approval of temporary procedure change.
	Temporary Modifications of Procedures	K/A 2.2.6 Imp 3.3
A.3	Radiation Control	JPM - Determine and direct actions for High Radiation in HVAC Stack
	Control of Radiation Releases	K/A 2.3.11 Imp 3.2
A.4	Emergency Plan	JPM - Determine the PAR of evacuate 5 mile radius & 10 miles downwind
	Emergency Protective Action Recommendations	K/A 2.4.44 Imp 4.0

Facility: Clinton Power StationDate of Examination: 7/29/2002Exam Level (circle one): RO / SRO(I) / SRO(U)Operating Test Number: ILT0101-1

## B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. <b>Recirculation:</b> JPM (NEW), Transfer RR Fast to Slow with a Trip of One Recirc Pump, K/A 202001.A2.03, Imp 3.6 / 3.7	N,S,A,L	1
b. <b>Main Turbine Generator:</b> JPM 011245J001, Synch Generator to Grid, K/A 245000.A4.02, Imp 3.1 / 2.9	D,S,L	4
c. <b>Rod Control and Information System:</b> JPM 015200J024, Defeat Rod Pattern Controller, K/A 201005.A2.04, Imp 3.2 / 3.2	D,C	7
d. <b>Plant Ventilation:</b> JPM 011288J007, Shift VR Supply and Exhaust Fans, K/A 288000.A4.01, Imp 3.1 / 2.9	D,S	9
e. <b>Instrument Air:</b> JPM 015200J004, Pressurize the Containment and Drywell Instrument Air Headers, K/A 300000.A4.01, Imp 2.6 / 2.7	D,S,L	8
f. <b>Automatic Depressurization System:</b> JPM 011218J004, ADS Manual Initiation IAW EOP-3, K/A 218000.A4.01, Imp 4.4 / 4.4	M,S,F	3
g. <b>Emergency Generator:</b> JPM (NEW), Load Diesel Generator, K/A 264000.A4.04, Imp 3.7 / 3.7	S,N,A	6

## B.2 Facility Walk-Through

a. <b>RHR: Suppression Pool Cooling Mode:</b> JPM 011205J001, Suppression Cooling from Remote Shutdown Panel, K/A 219000.A2.13, Imp 3.5 / 3.7	D,S,A,L	5
b. <b>Reactor Pressure Regulating:</b> JPM 41248J002, Respond to Low Hydraulic Pressure on Steam Bypass Hydraulic Power Unit, K/A 241000.A2.06, Imp 3.1 / 3.2	D,R	3
c. <b>Emergency Generators:</b> JPM 011264J001, DG Emergency Shutdown, K/A 264000.A3.03, Imp 3.4/3.4	D,R,A	6

\* 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: Clinton Power StationDate of Examination: 7/29/2002Exam Level (circle one): RO / SRO(I) / SRO(U)Operating Test Number: ILT0101-2

## B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. <b>Recirculation:</b> JPM 014202J001, Emergency Shutdown and Isolation of One RR Loop from Fast, K/A 202001.A4.01, Imp 3.7 / 3.7	S,D	1
b. <b>Reactor Core Isolation Cooling:</b> JPM 015200J011, Defeat Low RCIC Supply Pressure Isolation, K/A 217000.A2.02, Imp 3.8 / 3.7	C,D,L	4
c. <b>Reactor Feedwater:</b> JPM 011259J001, Transfer Control of Feed Reg. Valve 1FW004 to Startup Level, K/A 259001.A4.08, Imp 3.3 / 3.3	S,D,L	2
d. <b>A.C. Electrical Distribution:</b> JPM 011262J002, 4160 V Bus 1A1 from the main to the reserve source IAW 3501.01, K/A 262001.A1.02, Imp 3.1 / 3.5	S,A	6
e. <b>Local Power Range Monitor:</b> JPM 011215J001, Bypass LPRM, K/A 215005.A4.04, Imp 3.2 / 3.2	D,C	7
f. <b>Plant Ventilation:</b> JPM 011288J003, Place the Continuous Containment Purge System (CCP) in the Filter Mode (AUTO), K/A 288000.A4.01, Imp 3.1 / 2.9	D,S,A	9
g. <b>Automatic Depressurization System:</b> JPM (NEW), Initiate ADS Loss of Normal Instrument Air, Transfer to Alternate Source, K/A 218000.A2.03, Imp 3.4 / 3.6	N,A,S,L	3

## B.2 Facility Walk-Through

a. <b>Primary Containment:</b> JPM 015200J082, Startup Hydrogen Recombiner from Local Panel, K/A 223001.A2.04, Imp 3.7 / 3.8	R,D,L	5
b. <b>Reactor Core Isolation Cooling:</b> JPM (NEW) RCIC Startup at the RSD Panel with Flow Controller Failure, K/A 217000.A2.10, Imp 3.1 / 3.1	S,N,A	4
c. <b>Fire Protection System:</b> JPM 011268J009, Perform WS/FP Crosstie to Feed the RPV, K/A 286000.A1.05, Imp 3.2 / 3.2	M,R	8

\* 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: Clinton Power StationDate of Examination: 7/29/2002Exam Level (circle one): RO / SRO(I) / SRO(U)Operating Test Number: ILT0101-3

## B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. <b>Low Pressure Core Spray:</b> JPM 011209J001, Manually S/D LPCS with Initiation Signal Present, K/A 209001.A4.01, Imp 3.8 / 3.6	D,S,L	4
b. <b>RHR: Suppression Pool Cooling Mode:</b> JPM 011205J010, Place RHR in Suppression Pool Cooling, K/A 219000.A4.01, Imp 3.8 / 3.7	D,S,A	5
c. <b>Reactor Feedwater:</b> JPM 011259J004, Startup the Motor Driven Reactor Feed Pump, K/A 259001.A4.02, Imp 3.9 / 3.7	D,S,L	2
d. <b>Emergency Generator:</b> JPM 011264J002, Parallel DG 1A with Off Site Power, K/A 264000.A4.05, Imp 3.6 / 3.7	D,S	6
e. <b>Main Steam:</b> JPM 014200J005, Reset Group 1 Isolation and Establish Pressure Control Using the MSL Drains, K/A 239001.A4.02, Imp 3.2 / 3.2	D,S,L	3
f. <b>Standby Liquid Control:</b> JPM (NEW) Initiate Standby Liquid Control, RWCU Fails to Isolate, K/A 211000.A4.06, Imp 3.9 / 3.9	N,S,A	1
g. <b>Standby Gas Treatment:</b> JPM (NEW), Standby Gas Treatment (VG) trips upon Start, K/A 261000.A2.05, Imp 3.0 / 3.1	N,S,A	9

## B.2 Facility Walk-Through

a. <b>Reactor Protection System:</b> JPM 045200J022, Open Reactor Protection System Scram Breakers Outside of the MCR, K/A 295015.AA1.02, Imp 4.0 / 4.2	D,R,L	7
b. <b>Fire Protection:</b> JPM (NEW), Shutdown Diesel Firepump due to inplant Flooding, K/A 286000.A2.06, Imp 3.1 / 3.2	N,A	8
c. <b>Safety Relief Valves:</b> JPM 015200J042, Operate a SRV from the Remote Shutdown Panel, K/A 239002.A2.06, Imp 4.1 / 4.3	S,D,A,L	3

\* 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: Clinton Power StationDate of Examination: 7/29/2002Exam Level (circle one): RO / SRO(I) / SRO(U)Operating Test Number: ILT0101-3

## B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. <b>Reactor Feedwater:</b> JPM 011259J004, Startup the Motor Driven Reactor Feed Pump, K/A 259001.A4.02, Imp 3.9 / 3.7	D,S,L	2
b. <b>Main Steam:</b> JPM 014200J005, Reset Group 1 Isolation and Establish Pressure Control Using the MSL Drains, K/A 239001.A4.02, Imp 3.2 / 3.2	D,S,L	3
c. <b>Standby Liquid Control:</b> JPM (NEW) Initiate Standby Liquid Control, RWCU Fails to Isolate, K/A 211000.A4.06, Imp 3.9 / 3.9	N,S,A	1

## B.2 Facility Walk-Through

a. <b>Reactor Protection System:</b> JPM 045200J022, Open Reactor Protection System Scram Breakers Outside of the MCR, K/A 295015.AA1.02, Imp 4.0 / 4.2	D,R,L	7
b. <b>Fire Protection:</b> JPM (NEW), Shutdown Diesel Firepump due to inplant Flooding, K/A 286000.A2.06, Imp 3.1 / 3.2	N,A	8

\* 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: Clinton Power Station Scenario No.: OneOperating Test No.: NRC0101-1

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

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

**Initial Conditions:**

8-10% power, Drywell pressure is high, A OG hydrogen analyzer is out of service

**Turnover:**

- 8-10% power –Continue with the startup per CPS 3004.01 by pulling rods,
- run a mixer to reduce Drywell pressure

Event No.	Malf. No.	Event Type*	Event Description
1	NA	RO-R	Pull rods to raise power
2	LS02	RO-I	Rod PIP probe fails
3	RR02A	RO-C	RR pump trip
4	NA	BOP-N	Reduce Drywell pressure
5	Override	BOP-I	OG recombiner level controller failure
6	Override	BOP-C	WS seal water pump trip
7	RH14 HP15	M	Suppression pool leak RHR A pump room with cross leakage into LPCS room
8	HP130 HP131	M	All SRVs fail to respond to initiation of ADS

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

Facility: Clinton Power Station Scenario No.: TwoOperating Test No.: NRC0101-2

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

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

Initial Conditions: 90% power, A OG hydrogen analyzer is out of service

Turnover:

1. Need to reduce power to 80% power TG, MSIV testing.
2. Auxiliary Steam is scheduled to be started up from the crossaround to support evaporator operations.

Event No.	Malf. No.	Event Type*	Event Description
1	NA	RO-R	Reduce power with flow
2	FW01A	RO-C	Condensate pump trips
3	YVCUF DCN(1)	RO-C	RWCU filter demineralizer conductivity goes up
4	NA	BOP-N	Startup Aux. Steam
5	OVERRI DE	BOP-C	GSE compressor high motor temperature
6	OVERRI DE	BOP-I	HPCS suppression pool level instrument fails high
7	MC01	M	Loss of vacuum group 1 isolation
8	RP01	M	Failure to scram
9	Override SLO3A	M	SLC failure
10	RH02A	M	RHR pump trip

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

Facility: Clinton Power Station Scenario No.: ThreeOperating Test No.: NRC0101-3

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

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

Initial Conditions: 30% power RR LFMG, A OG hydrogen analyzer is out of service, GC pump out of service failed motor bearing, FCV inhibited at 90%, Pulling rods to 40% power for Recirculation pump upshift. Auxiliary Steam is being provided by an Electrode Boiler.

**Turnover:**

1. Cycle Condensate tank is low and Radwaste doesn't have any CY grade water available to transfer, an MC to CY transfer is required
2. Pull rods

	Malf. No.	Event Type*	Event Description
1	NA	RO-R	Pull rods to raise power
2	1221I_Action3	RO-C	Rod drifts outward.
3	NA	BOP-N	MC-CY transfer
4	RRO1A	BOP-C	RR FCV packing leak
5	YAMSA VFP(16)	BOP-C	MC pump coupling fails
6	YAFWL 47	RO-C	Water leak on CB pump
7	PC12	M	RPV Instrument line failure in the secondary containment
8	RP01	M	Auto and Manual scram failure

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

Facility: Clinton Power Station Scenario No.: FourOperating Test No.: NRC0101-4

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

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

Initial Conditions: 90% power, A OG hydrogen analyzer is out of service, GC pump out of service failed motor bearing.

Turnover:

Power reduction to 85% is scheduled for surveillance testing

Unit Sub C needs to be cross tied to D for breaker PM

Event No.	Malf. No.	Event Type*	Event Description
1	Override	RO-C	CRD temp high
2	FW12A	RO-I	RFP flow input signal fails
3	HP13D	RO-R BOP-I	SRV open
4	NA	BOP-N	Cross tie unit sub C to D
5	PC09B	BOP-C	FC pump trip
6	RR14	M	Instrument line failure
7	RR15	M	Loss of all RPV level instrumentation
8	PC14	M	Leak between the DW and containment

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

Facility: Clinton Power Station Scenario No.: FiveOperating Test No.: NRC0101-5

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

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

Initial Conditions: 85% power, A OG hydrogen analyzer is out of service, with ongoing thunder storms

Turnover:

GC pump out of service failed motor bearing

Power ascension to 90%

The running RD pump needs shutdown to support scheduled work activity

Event No.	Malf. No.	Event Type*	Event Description
1	NA	RO-R	Raise power with flow
2	YACULO 29	RO-C	RWCU leak in the heat exchanger room
3	OVERRI DE	RO-C	Oil leak on RFP 1C
4	NA	BOP-N	Swap RD pumps
5	MS04	BOP-I	SSE level control failure
6	ED02A	BOP-C	Loss of RAT
7	EG05B EG02	M	GC pump trip/generator lockout
8	HP13N	M	SRV opens on pressure transient and stays open
9	RI05	M	RCIC flow system isolates
10	HP03	M	HPCS motor breaker trips

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

### Comments on the CLINTON Exam Outlines

JPM/Scenario Event Number	Comment(s)
1A.1.a (ro) (perform pmt of sx pump)	<p><u>NRC:</u> Starting of an SX pump does not appear to be an "admin" task. Actually determining PMT requirements for an SX pump would be an "admin" task.</p> <p><u>LICENSEE RESPONSE:</u> The licensee will review the JPM to ensure there is an "admin" task imbedded and not simply an exercise in starting pumps.</p>
2A.3 (ro) (entry requirements for ca)	<p><u>NRC:</u> Should reference K/A 2.3.4 verses K/A 2.3.1 since 10 CFR 20 does not provide requirements for contamination controls.</p> <p><u>LICENSEE RESPONSE:</u> The licensee agreed and will change the referenced K/A.</p>
3A.1.b (ro) <b>(This JPM was not used on the exam. Also, the JPM was not made publically available at the request of the licensee)</b>	<p><u>NRC:</u> REDACTED</p> <p><u>LICENSEE RESPONSE:</u> REDACTED</p>
3A.2 (ro) <b>(This JPM was not used on the exam. Also, the JPM was not made publically available at the request of the licensee)</b>	<p><u>NRC:</u> REDACTED</p> <p><u>LICENSEE RESPONSE:</u> REDACTED</p>

### Comments on the CLINTON Exam Outlines

JPM/Scenario Event Number	Comment(s)
1A.1.a (sro) (determine reporting requirements)	<p><u>NRC:</u> The referenced K/A, 2.1.14, requires the applicant to notify plant personnel. Does this JPM require the applicant to notify plant personnel? By the title, it appears that the JPM is an "A.4" JPM relating to K/A 2.4.30.</p> <p><u>LICENSEE RESPONSE:</u> The licensee will replace the JPM.</p>
1B.2.a (suppression pool cooling from the rsp)	<p><u>NRC:</u> The JPM must require the applicant to locate the rsp in the plant.</p> <p><u>LICENSEE RESPONSE:</u> The licensee will add a note to the JPM reminding the examiners to have the applicant locate the RSP within the plant (do during other in-plant JPM).</p>
2B.2.b (start rcic from rsp)	<p><u>NRC:</u> The JPM must require the applicant to locate the rsp in the plant.</p> <p><u>LICENSEE RESPONSE:</u> The licensee will add a note to the JPM reminding the examiners to have the applicant locate the RSP within the plant (do during other in-plant JPM).</p>
2B.2.c (ws/fp crosstie to rpv)	<p><u>NRC:</u> Isn't this task actually a "Inventory Control" task? May be assigned to an incorrect Safety Function.</p> <p><u>LICENSEE RESPONSE:</u> The licensee agreed and will change the referenced Safety Function to Inventory Control.</p>

### Comments on the CLINTON Exam Outlines

JPM/Scenario Event Number	Comment(s)
<p style="text-align: center;">3B.1.b (suppression pool cooling from the rsp)</p>	<p><u>NRC:</u>            This appears to be the same JPM as Scenario #1, Event 3. Must be SIGNIFICANTLY different than the same task in the main control room.</p> <p><u>LICENSEE RESPONSE:</u>    The licensee will use the schedule to ensure no applicant will be examined using this AND Scenario #1.</p>
<p style="text-align: center;">Scenario #1</p>	<p><u>NRC:</u>            Event 3, "RR pump trip," appears to be the same as JPM 1B.1.a.</p> <p><u>LICENSEE RESPONSE:</u>    The licensee will use the schedule to ensure no applicant will be examined using this AND JPM 1B.1.a.</p>