Facility: Vermont Yankee NRC Date of Exam: 4/2007

Tier	Group	RO K/A Category Points												SRO-Only Points		
		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G*	Total	A2	G*	Total
1. Emergency & Abnormal Plant Evolutions	1	3	3	4	N/A			4	3	N/A		3	20	3	4	7
	2	1	2	0				2	1			1	7	1	2	3
	Tier Totals	4	5	4				6	4			4	27	4	6	10
2. Plant Systems	1	3	2	3	3	2	2	3	1	2	3	2	26	3	2	5
	2	1	1	1	1	0	2	1	1	2	2	0	12	0 / 1	2	3
	Tier Totals	4	3	4	4	2	4	4	2	4	5	2	38	4	4	8

3. Generic Knowledge and Abilities Categories	1	2	3	4	10	1	2	3	4	7
	3	2	2	3		1	3	1	2	

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 ± 1 from that specified in the table based on NRC revisions. The final RO exam must total 75 points and the SRO-only exam must total 25 points.
	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 10 CFR 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.

Vermont Yankee NRC
BWR SRO/RO Written Examination Outline
Emergency and Abnormal Plant Evolutions – Tier 1 Group 1

E/APE # / Name Safety Function	G	K1	K2	K3	A1	A2	Number	K/A Topic(s)	Imp.	Q#
295007 High Reactor Pressure / 3	X						2.4.20	Emergency Procedures / Plan Knowledge of operational implications of EOP warnings/cautions/notes	4.0	76
295032 High Secondary Containment Area Temp. / 5	X						2.4.21	Emergency Procedures / Plan: Knowledge of the parameters and logic used to assess the status of safety functions including: 1 reactivity Control 2. Core Cooling and heat removal. 3. Reactor coolant system integrity 4. Containment conditions. 5. Radioactivity release control. (Hi secondary containment area temps).	4.0	77
295023 Refueling Acc Cooling Mode / 8	X						2.2.29	Equipment Control Knowledge of SRO fuel handling responsibilities.	3.8	78
295024 High Drywell Pressure / 5						X	EA2.03	Ability to determine and/or interpret the following as they apply to HIGH DRYWELL PRESSURE: Suppression pool level.....	3.8	79
295028 High Drywell Temperature / 5						X	EA2.03	Ability to determine and/or interpret the following as they apply to HIGH DRYWELL TEMPERATURE : Reactor water level	3.9	80
295030 Low Suppression Pool Water Level / 5						X	EA2.01	Ability to determine and/or interpret the following as they apply to LOW SUPPRESSION POOL WATER LEVEL : Suppression pool level.....	4.2	81
295031 Reactor Low Water Level / 2	X						2.4.7	Emergency Procedures/Plan Knowledge of Event based EOP mitigation strategies	3.8	82
295001 Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4				X			AK3.02	Knowledge of the reasons for the following responses as they apply to PARTIAL OR COMPLETE LOSS OF FORCED CORE FLOW CIRCULATION : Reactor power response.....	3.7	39
295003 Partial or Complete Loss of AC / 6					X		AA1.02	Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF A.C. POWER : Emergency generators.....	4.2	40
295004 Partial or Total Loss of DC Pwr / 6					X		AA1.02	Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF D.C. POWER : Systems necessary to assure safe plant shutdown.....	3.8	41
295005 Main Turbine Generator Trip / 3						X	AA2.03	Ability to determine and/or interpret the following as they apply to MAIN TURBINE GENERATOR TRIP : Turbine valve position.....	3.1	42
295002 Loss of Main Condenser Vacuum / 8	X						2.4.11	Emergency Procedures/Plan: Knowledge of Abnormal Condition Procedures	3.4	43

Vermont Yankee NRC
BWR SRO/RO Written Examination Outline
Emergency and Abnormal Plant Evolutions – Tier 1 Group 1

E/APE # / Name Safety Function	G	K1	K2	K3	A1	A2	Number	K/A Topic(s)	Imp.	Q#
295016 Control Room Abandonment / 7				X			AK3.03	Knowledge of the reasons for the following responses as they apply to CONTROL ROOM ABANDONMENT : Disabling Control Room Controls..	3.5	44
295018 Partial or Total Loss of CCW / 8		X					AK1.01	Knowledge of the operational implications of the following concepts as they apply to PARTIAL OR COMPLETE LOSS OF COMPONENT COOLING WATER and the following: Effects on components/system operations	3.5	45
295019 Partial or Total Loss of Inst. Air / 8			X				AK2.08	Knowledge of the interrelations between PARTIAL OR COMPLETE LOSS OF INSTRUMENT AIR and the following: Plant ventilation.	2.8	46
295021 Loss of Shutdown Cooling / 4			X				AK2.03	Knowledge of the interrelations between LOSS OF SHUTDOWN COOLING and the following: RHR/shutdown cooling	3.6	47
295023 Refueling Acc Cooling Mode / 8				X			AK3.02	Knowledge of the reasons for the following responses as they apply to REFUELING ACCIDENTS : Interlocks associated with fuel handling equipment....	3.4	48
295024 High Drywell Pressure / 5	X						2.4.2	Emergency Procedures / Plan: Knowledge of system setpoints/interlocks and automatic actions associated with EOP entry condtions.	3.9	49
295025 High Reactor Pressure / 3	X						2.1.32	Conduct of Operations: Ability to explain and apply all system limits and precautions.	3.4	50
295026 Suppression Pool High Water Temp. / 5						X	EA2.03	Ability to determine and/or interpret the following as they apply to SUPPRESSION POOL HIGH WATER TEMPERATURE: Reactor Pressure.	3.2	51
295036 High Secondary Containment Sump/Area Water Level / 5					X		EA1.02	Ability to operate and/or monitor the following as they apply to High Secondary Containment Sump/Area Water Level: Affected systems so as to isolate damaged portions.	3.5	52
295028 High Drywell Temperature / 5			X				EK2.04	Knowledge of the interrelations between High Drywell temperature and the following: Drywell ventilation.	3.6	53
295030 Low Suppression Pool Water Level / 5					X		EA1.05	Ability to operate and/or monitor the following as they apply to LOW SUPPRESSION POOL WATER LEVEL : HPCI.....	3.5	54
295031 Reactor Low Water Level / 2						X	EA2.04	Ability to interpret and/or determine the following as they apply to REACTOR LOW WATER LEVEL: Adequate Core Cooling.	4.6	55

Vermont Yankee NRC
BWR SRO/RO Written Examination Outline
Emergency and Abnormal Plant Evolutions – Tier 1 Group 1

E/APE # / Name Safety Function	G	K1	K2	K3	A1	A2	Number	K/A Topic(s)	Imp.	Q#
295037 SCRAM Condition Present and Power Above APRM Downscale or Unknown / 1				X			EK3.03	Knowledge of the reasons for the following responses as they apply to SCRAM CONDITION PRESENT AND REACTOR POWER ABOVE APRM DOWNSCALE OR UNKNOWN : Lowering Reactor Water Level	4.1	56
295038 High Off-site Release Rate / 9		X					EK1.02	Knowledge of the operational implications of the following concepts as they apply to HIGH OFF-SITE RELEASE RATE : Protection of the general public.....	4.2	57
600000 Plant Fire On-site / 8		X					AK1.02	Knowledge of the operations applications of the following concepts as they apply to PLANT FIRE ON SITE: Fire Fighting	2.9	58
K/A Category Point Totals:	3/4	3	3	4	4	3/3	Group Point Total:			**20/7**

Vermont Yankee NRC
BWR SRO/RO Written Examination Outline
Emergency and Abnormal Plant Evolutions – Tier 1 Group 2

E/APE # / Name Safety Function	G	K1	K2	K3	A1	A2	Number	K/A Topic(s)	Imp.	Q#
295010 High Drywell Pressure / 5	X						2.4.6	Emergency Procedures / Plan Knowledge of symptom based EOP mitigation strategies	3.4	83
295012 High Drywell Temperature / 5	X						2.1.9	Conduct of Operations: Ability to direct personnel activities inside the control room	4.0	84
295003 Partial or Complete loss of AC Power / 6						X	AA2.04	Ability to interpret or determine the following as they apply to COMPLETE OR PARTIAL LOSS OF AC POWER: System Lineups	3.7	85
295019 Partial or Total Loss of Inst. Air / 8			X				AK2.03	Knowledge of the interrelations between PARTIAL OR COMPLETE LOSS OF INSTRUMENT AIR and the following: Reactor Feedwater.	3.2	59
295010 High Drywell Pressure / 5	X						2.4.18	Emergency Procedures / Plan Knowledge of the specific bases for EOPs	2.7	60
295014 Inadvertent Reactivity Addition / 1						X	AA2.04	Ability to determine and/or interpret the following as they apply to INADVERTENT REACTIVITY ADDITION: Violation of Fuel Thermal Limits.	4.1	61
295012 High Drywell Temperature / 5					X		AA1.01	Ability to operate and/or monitor the following as they apply to HIGH DRYWELL TEMPERATURE : Drywell ventilation system.....	3.5	62
295015 Incomplete SCRAM / 1					X		AA1.01	Ability to operate and/or monitor the following as they apply to INCOMPLETE SCRAM: CRD Hydraulics.....	3.8	63
295033 High Secondary Containment Area Radiation Levels / 9		X					EK1.03	Knowledge of the operational implications of the following concepts as they apply to HIGH SECONDARY CONTAINMENT AREA RADIATION LEVELS : Radiation releases.....	3.9	64
295035 Secondary Containment High Differential Pressure / 5			X				EK2.04	Knowledge of the interrelations between SECONDARY CONTAINMENT HIGH DIFFERENTIAL PRESSURE and the following: Blowout Panels/Plant Specific.....	3.3	65
K/A Category Point Total:	1/2	1	2	0	2	1/1	Group Point Total:			7/3

ES-401	Vermont Yankee NRC BWR SRO/RO Written Examination Outline Plant Systems – Tier 2 Group 1	Form ES-401-1

System #/Name	G	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	Number	K/A Topics	Imp	Q#
211000 SLC									X			A2.01	Ability to (a) predict the impacts of the following on the SLC SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Pump Trip	3.8	86
206000 HPCI									X			A2.11	Ability to (a) predict the impacts of the following on the HIGH PRESSURE COOLANT INJECTION SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Low reactor water level: BWR-2,3,4	4.2	87
218000 ADS	X											2.2.25	Equipment Control Knowledge of bases in technical specifications for limiting conditions for operations and safety limits.	3.7	88
262001 AC Electrical Distribution	X											2.4.4	Emergency Procedures / Plan Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.	4.3	89
204000 RWCU									X			A2.13	Ability to (a) predict the impacts of the following on the REACTOR WATER CLEANUP SYSTEM and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation: Signal received which results in a system isolation	3.4	90
203000 RHR/LPCI: Injection Mode								X				K2.01	Ability to predict and/or monitor changes in parameters associated with operating the RHR/LPCI: INJECTION MODE (PLANT SPECIFIC) controls including: Reactor pressure	3.9	1
205000 Shutdown Cooling						X						K5.03	Knowledge of the operational implications of the following concepts as they apply to SHUTDOWN COOLING SYSTEM (RHR SHUTDOWN COOLING MODE) : Heat removal mechanisms	2.8	2
205000 Shutdown Cooling				X								K3.05	Knowledge of the effect that a loss or malfunction of the SHUTDOWN COOLING SYSTEM (RHR SHUTDOWN COOLING MODE) will have on following: Fuel Pool Cooling Assist	2.6	3
206000 HPCI							X					K6.09	Knowledge of the effect that a loss or malfunction of the following will have on the HIGH PRESSURE COOLANT INJECTION SYSTEM : Condensate storage and transfer system: BWR-2,3,4	3.5	4

Facility:	Vermont Yankee NRC	Date of Exam:	4/2007

Category	K/A #	Topic	RO		SRO-Only	
			IR	Q#	IR	Q#
1. Conduct of Operations	2.1.12	Ability to apply technical specifications for a system.			4.0	94
	2.1.20	Ability to execute procedure steps.	4.3	66		
	2.1.3	Knowledge of shift turnover practices	3.0	67		
	2.1.28	Knowledge of the purpose and/or function of major system components and controls.	3.8	68		
	Subtotal			3		2
2. Equipment Control	2.2.25	Knowledge of bases in TS for LCOs and safety Limits			3.7	95
	2.2.24	Ability to analyze the effect of maintenance activities on LCO status.			3.8	96
	2.2.26	Knowledge of the refueling administrative requirements.			3.7	97
	2.2.2	Ability to manipulate the console controls as required to operate the facility between shutdown and designated power levels.	4.0	69		
	2.2.28	Knowledge of new and spent fuel movement procedures.	2.6	70		
	Subtotal			2		2
3. Radiation Control	2.3.4	Knowledge of radiation exposure limits and contamination control/ including permissible levels in excess of those authorized.			3.1	98
	2.3.2	Knowledge of facility ALARA program.	2.5	71		
	2.3.10	Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure.	2.9	72		
	Subtotal			2		1
4. Emergency Procedures / Plan	2.4.25	Knowledge of fire protection procedures.			3.4	99
	2.4.41	Knowledge of the emergency action level thresholds and classifications.			4.1	100
	2.4.49	Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.	4.0	73		
	2.4.11	Knowledge of abnormal condition procedures.	3.4	74		
	2.4.10	Knowledge of annunciator response procedures.	3.0	75		
	Subtotal			3		2
Tier 3 Point Total				10		7

Tier / Group	Randomly Selected K/A	Reason for Rejection
1 / 1	295019 K2.13	(Q.#46) AK2.08, randomly selected – original selection did not apply to plant.
1 / 1	295031 2.1.28	(Q. #82) Impossible to meet KA Topic requirement at SRO level. Randomly reselected G2.1.20 for APE. G2.4.7 randomly selected.
1 / 1	295028 2.4.30	(Q. #53). EK2.04 randomly selected – original selection not applicable at RO level at this plant. Also < 2.5 Imp.
2 / 1	295005 K3.02	(Q.#3) K3.05 randomly selected – double jeopardy with Q.# 47
2 / 1	259002 K2.02	(Q. #17) K1.03 randomly selected, original selection does not apply to the plant.
3	2.2.3	(Q.#69) 2.2.2 randomly selected, original selection is for multi unit plant
2 / 2	202001 K2.04	(Q.28) K2.03 randomly selected, original selection does not apply to plant
2 / 1	2009002 K6.01	(Q.#7) 223001 2.2.28 randomly selected, original selection does not apply to the plant
1 / 2	295011 AA2.01	(Q.#61) 295014 AA2.04 randomly selected, original selection does not apply to plant.
2 / 1	207000 A3.02	(Q.#5) 206000 A3.03 randomly selected, original selection does not apply to plant
1 / 1	295027 EA1.01	(Q.#52) 295032 randomly selected, original selection does not apply to plant.
1 / 2	295011 2.4.31	(Q.#84) 295010 2.4.6 randomly selected, original selection does not apply to plant.
2 / 1	206000 2.05	(Q.# 88) 2.1.11 randomly selected, original selection was double jeopardy with Q.#41.
3	G2.1.8	(Q.#68) 2.1.28 randomly selected, original selection was not an RO level topic at VY.
2 / 2	215001 A2.08	(Q.#92) 215005 G2.1.12 randomly reselected – an operationally valid question at the SRO level could not be written for original selection.
1 / 1	295007 2.4.50	(Q.#76) 2.4.20 randomly reselected, original selection was an RO level topic
1 / 1	295020 AA2.02	(Q.#86) 295003 AA2.04 randomly reselected, an operationally valid question at the SRO level could not be written for original selection
1 / 2	295009 AK1.03	(Q.#59) 295019 AK2.03 randomly reselected due to double jeopardy with another reactor level topic KA.
1 / 1	295006 2.1.28	(Q.#43) 295002 2.4.11 randomly reselected, operationally valid discriminating question could not be written for original selection.
2 / 2	290002 K4.02	(Q.#38) K4.01 randomly reselected. An operationally valid, discriminating question could not be written for original selection
1 / 1	295026 EK2.03	(Q.#51) EA2.03 randomly selected. Operationally oriented question could not be written for original selection due to overlap on other portions of the exam.
3	G2.1.4	(Q.#95) 2.2.25 randomly reselected. An operationally valid SRO level question could not be written for the original selection
3	G2.2.20	(Q.#96) 2.2.12 randomly reselected. An operationally valid SRO level question could not be written for the original selection

Facility: Vermont Yankee		Date of Examination:	
Examination Level (circle one): **RO** / SRO		Operating Test Number:	2007 NRC
Administrative Topic (see Note)	Type Code*	Describe activity to be performed	
Conduct of Operations	D, S	JPM:	Perform Reactor Coolant Temperature Check
		K/A:	2.1.7 (3.7) Ability to evaluate plant performance and make operational judgments based on operating characteristics / reactor behavior / and instrument interpretation.
Conduct of Operations	N, S	JPM:	Perform Shutdown CRO Rounds
		K/A:	2.1.33 (3.4) Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.
Equipment Control	D, S	JPM:	Perform a Drywell Temperature Profile Surveillance
		K/A:	2.2.12 (3.0) Knowledge of Surveillance Procedures
Radiation Control	M, C	JPM:	Locate and Determine Radiological Requirements for Inspection of RCU Valve V12-19A (CU-19A)
		K/A:	2.3.1 (2.6) Knowledge of 10 CFR: 20 and related facility radiation control requirements.
Emergency Plan		N/A	

NOTE:	All items (5 total are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.
*Type Codes & Criteria:	(C)ontrol room Class(R)oom (D)irect from bank (≤ 3 for ROs; ≤ for SROs & RO retakes) (N)ew or (M)odified from bank (> 1) (P)revious 2 exams (≤ 1; randomly selected) (S)imulator

2007 NRC Examination
Summary Description of Admin Tasks

A.1.a The candidate will perform reactor coolant temperature checks. This is a bank JPM. The candidate is required to recognize that the temperature difference is greater than 145 deg F and determine that the recirculation pump may not be started. This is a bank JPM.

A.1.b The candidate will perform a portion of the Shutdown CRO Rounds. The candidate is required to recognize abnormal and out of spec conditions which are entry-level conditions for technical specifications. This is a new JPM.

A.2 The candidate will perform a "Drywell Temperature Profile" surveillance IAW OP 4115. This is a bank JPM.

A.3 The candidate will locate and determine radiological requirements for Inspection of RWCU valve V12-19A (CU-19A), including a calculation of stay time, determination of areas with the lowest dose, and determination of areas with the lowest contamination levels. This is a bank JPM. This JPM was used on the 2005 NRC exam; however, task conditions will be modified to result a different stay time and new areas of low dose and contamination levels.

Facility: Vermont Yankee		Date of Examination:
Examination Level (circle one): RO / **SRO**		Operating Test Number: 2007 NRC
Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	N	JPM: Perform a Core Thermal Hydraulic Limits Evaluation. K/A: 2.1.7 (4.4) Ability to evaluate plant performance and make operational judgments based on operating characteristics / reactor behavior / and instrument interpretation.
Conduct of Operations	D	JPM: Review Completed Surveillance and Take Action for Out of Spec Data K/A: 2.1.12 (4.0) Ability to apply technical specifications for a system.
Equipment Control	N	JPM: Review Switching and Tagging Order K/A: 2.2.13 (3.8) Knowledge of tagging and clearance procedures.
Radiation Control	N	JPM: Review and Approve Primary Containment Purge cumulative hours log K/A: 2.3.9 (3.4) Knowledge of the process for performing a containment purge
Emergency Plan	D	JPM: PAR Based on Plant Conditions (Shelter) K/A: 2.4.44 (4.0) Knowledge of emergency plan protective action recommendations
NOTE: All items (5 total are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.		

*Type Codes & Criteria:	(C)ontrol room (D)irect from bank (≤ 3 for ROs; 4 ≤ for SROs & RO retakes) (N)ew or (M)odified from bank (> 1) (P)revious 2 exams (≤ 1; randomly selected) (S)imulator

2007 NRC Examination
Summary Description of Admin Tasks

A.1.a The candidate will perform a core thermal limits hydraulic evaluation IAW OP 4401 and determine that one thermal limit is out of spec requiring a TS entry. This is a new JPM.

A.1.b The candidate will review a completed RHR system surveillance and take action for out of spec data. This is a bank JPM.

A.2 The candidate will review a switching and tagging order for 'A' CRD pump, identify tagging errors, and determine that the tagout cannot be approved as written. This is a new JPM.

A.3 The candidate will review the containment purge cumulative hours log in preparation for a containment purge. The hour s log will be inaccurate and the candidate must determine that the purge can not be approved. This a new JPM.

A.4 The candidate will make the initial PAR based during a LOCA event with a release in progress per OP 3511. The candidate will determine that shelter is required. The task is time critical. This is a bank JPM.

Facility: Vermont Yankee		Date of Examination:	
Exam Level (circle one): RO / SRO(I) / **SRO (U)**		Operating Test No.:	NRC 2007
Control Room Systems@ (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U, including 1 ESF)			
	System / JPM Title	Type Code*	Safety Function
S-1	201006 Source Range Monitor Rx startup to criticality, high reactor period	N, A, S, L	7
S-2	261000 Standby Gas Treatment System Secure Standby Gas Treatment	P, S	9
S-3	241000 Reactor/Turbine Pressure Regulating System Transfer Pressure Control From MPR to EPR	M, S	3
S-4	262001 A.C. Electrical Distribution System Energize Bus 4 From the Vernon Tie Line During a SBO	D, A, S	6
S-5	217000 Reactor Core Isolation Cooling System Respond to RCIC Auto Controller Failure	D, A, S	2
S-6	209001 Core Spray System Perform Core Spray "A" Quarterly Full Flow Test	M, A, S	4
S-7	223002 Primary Containment Isolation System PCIS Group V isolation failure	D, A, S	5
S-8 (RO)	202001 Reactor Recirculation System Recirc Pump Start With failed Field Breaker During Startup	M,A,S	1
In-Plant Systems@ (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)			
P-1	264000 Emergency Generators Shutdown Diesel Generator Locally	D, R	6
P-2	239002 Safety Relief Valves Lineup to Operate SRV-71 A and B From The RCIC Room	D, E, R, L	3
P-3	211000 Standby Liquid Control System Perform Local Firing of Squib Valves	D, E, R	1

Facility:	VERMONT YANKEE	Scenario No.:	1	Op Test No.:	**2007 NRC**
Examiners:		Operators:			
Initial Conditions:	• At 90% power for control rod pattern adjustment. • Power ascension required back to 100%.				
Turnover:	Perform weekly remote testing of Turbine Oil pumps IAW OP 4160.				
Critical Task:	See Scenario Summary				

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	N-ACRO N-CRS	Weekly remote testing of Turbine Oil pumps OP 4160.
2	N/A	R-CRO N-CRS	Power ascension IAW OP 0105.
3	mfED_19B		Loss of Bus 89B (TS).
4	mfMC_01B	C-ACRO C-CRS	Loss of Circ Water Pump.
5	mfRD_01A	C-CRO C-CRS	CRD Pump A trips (ON).
6	mfRD_051831 100%	C-CRO C-CRS	Control Rod 18-31 drifts outward (OT).
7	RC04 100%	I-ACRO I-CRS	Inadvertent HPCI initiation (TS).
8	mfED_17	M-ALL	Loss of Offsite power.
9	mfHP_04 0%	C-ACRO C-CRS	HPCI Flow Controller Failure.
10	mfRR_01A mfHP_01	M-ALL	Recirc loop rupture (initially, 0.7% over 300 sec). HPCI trip. RPV-ED on low level.
11	mfCS_03A	C-CRS	CS-12A and CS-12B failure to auto open.
Preinsert	mfCS_03B	C-ACRO	
Preinsert	mfRH_07A		RHR 27A failure to auto open.

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

Facility: VERMONT YANKEE	Scenario No.: 2	Op Test No.: **NRC 2007**	
Examiners:		Operators:	
Initial Conditions:	• 100% power, preparing to chlorinate the Circ Water System		
	• APRM C is bypassed due to inability to adjust gain – I&C troubleshooting is in progress		
	• RHR-39A Valve motor actuator is being repaired - 30-day LCO entered 4/28/07 per TS 3.5.B.1		
Turnover:	• Place CW in Closed Cycle for chlorination.		
	• Reduce reactor power in preparation for a control rod pattern adjustment. Per RE Guidance, the Rapid Shutdown Sequence will be used to reduce power to 80-85%.		
Critical Task:	See Scenario Summary		

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	N-CRS N-ACRO	Place CW in Closed Cycle for chlorination.
2	N/A	R-CRO N-CRS	Power Reduction IAW OP 0105.
3	FW-09A	C-CRS C-CRO	Feedwater regulating valve lockup (OT).
4	mfNM_05A 0%	I-CRO I-CRS	APRM A fails downscale (TS)
5	mfED_05C mfPC_11A	C-ALL	Loss of 480V Bus 8 (TS), Failure of SBGT A to auto start.
6	mfTC_04A	C-ACRO C-CRS	EPR Oscillations (OT).
7	mfAD_01B	C-ALL	SRV-71B leak (OT) leads to Rx scram (100% over 600 sec).
8 Preinsert	mfRP01B	I-CRO I-CRS	Failure of manual scram.
9 Preinsert	mfRD_12A mfRD_12B	M-ALL	45% hydraulic ATWS (A). 55% hydraulic ATWS (B).

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

Facility: VERMONT YANKEE Scenario No.: 3 Op Test No.: **2007 NRC**

Examiners: _____ Operators: _____

_____ _____

_____ _____

Initial Conditions: • Power is ~2% with a reactor startup in progress.

Turnover: • OP 0105 is complete thru Phase 2.C.
• Perform Turbine Chest Warmup IAW OP 0105 Phase 2.D. Step 1.
• Continue Reactor Startup (60 to 80 degree heat up rate).

Critical Task: See Scenario Summary

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	N-ALL	Perform Turbine Chest Warmup.
2	N/A	R-CRO N-CRS	Pull rods to continue power ascension.
3	NM04A	I-CRO C-CRS	IRM A fails upscale (TS).
4	mfRD_11A	C-CRO C-CRS	CRD Flow control Valve fails closed (ON).
5	mfRD_021819	C-CRO C-CRS	Stuck Control Rod 18-19 (ON)
6	rfPP_06 mfSW_14A mfSW_21B	C-ACRO C-CRO	Seismic event. TBCCW "A" Pump Trip w/ TBCCW "B" Pump Failure to auto start
7	mfMS_09	C-ACRO C-CRS	Gland Seal Regulator Fails Closed
8	mfHP_11 mfHP-15	C-ACRO C-CRS	RCIC steam leak (TS). RCIC fails to auto isolate.
9	rfPP_06 mfRR_18H	M-ALL	Seismic aftershock. Group 1 isolation.
10	mfRP_01C mfRP_01A	I-CRO I-CRS	Auto scram failure. Manual scram required.
11 Preinsert	mfRD_09A mfRP_09B	I-ACRO I-CRS	Scram Discharge Valves 33A, 33B fail open.

12	mfPC_10	M-ALL	Torus leak at "A" RHR suction (50% over 900 secs). PRV-ED on low Torus level.
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			