



ORIGINAL
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Entergy Nuclear Generating Company
Chiltonville Training Center
46 Sandwich Road
Plymouth, MA 02360-2505

August 22, 2000

Mr. Julian Williams
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406-1415

Dear Mr. Williams:

Enclosed are the following in support of the Licensed Operator Examination scheduled for November 6, 2000 at the Pilgrim Nuclear Power Station:

- Form ES-201-2, Examination Outline Quality Checklist
- Form ES-301-5, Transient and Event Checklist (4)
- Form ES-301-6, Competencies Checklist
- ✓ Form ES-301-1, Administrative Topics Outline
- ✓ Form ES-301-2, Control Room Systems and Facility Walk-Through Test Outline
- ✓ Form ES-D-1, Scenario Outline (4)
- Form ES-401-1, BWR SRO Examination Outline

The written examination outline was constructed using software developed by WD Associates. The outline was prepared using the draft supplemental guidelines to Revision 8 of NUREG-1021.

Per ES-201 Attachment 1, regarding exam security, I would request that the enclosed materials be withheld from public disclosure until after the examinations have been completed.

If I can provide any additional assistance, please feel free to call me at (508) 830-7638.

Sincerely yours,


D. Scott Willoughby
Senior Facility Representative

DSW/mg
O0920

Enclosures:

- Form ES-201-2, Examination Outline Quality Checklist
- Form ES-301-5, Transient and Event Checklist (4)
- Form ES-301-6, Competencies Checklist
- Form ES-301-1, Administrative Topics Outline
- Form ES-301-2, Control Room Systems and Facility Walk-Through Test Outline
- Form ES-D-1, Scenario Outline (4)
- Form ES-401-1, BWR SRO Examination Outline

Facility: Pilgrim Nuclear Power Station

Form ES-401-1

Exam Date: 11/06/2000

Exam Level: SRO

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	3	4	5				5	6			3	~ 26
	2	3	3	3				2	3			3	~ 17
	Tier Totals	6	7	8				7	9			6	~ 43
2. Plant Systems	1	2	2	2	1	2	1	1	3	3	3	3	~ 23
	2	1	1	1	1	1	2	1	1	1	1	2	~ 13
	3	0	0	0	1	0	1	1	0	0	0	1	~ 4
	Tier Totals	3	3	3	3	3	4	3	4	4	4	6	~ 40
3. Generic Knowledge And Abilities					Cat 1		Cat 2		Cat 3		Cat 4		
					5		4		4		4		~ 17

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.

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
295003	Partial or Complete Loss of A.C. Power / 6			X				AK3.06 - Containment isolation	3.7	1
295006	SCRAM / 1				X			AA1.02 - Reactor water level control system	3.8	1
295007	High Reactor Pressure / 3					X		AA2.02 - Reactor power	4.1*	1
295007	High Reactor Pressure / 3				X			AA1.02 - HPCI: Plant-Specific	3.7*	1
295009	Low Reactor Water Level / 2					X		AA2.01 - Reactor water level	4.2	1
295010	High Drywell Pressure / 5	X						AK1.03 - Temperature increases	3.4	1
295010	High Drywell Pressure / 5		X					AK2.04 - Nitrogen makeup system: Plant-Specific	2.8	1
295013	High Suppression Pool Temperature / 5			X				AK3.02 - Limiting heat additions	3.8	1
295014	Inadvertent Reactivity Addition / 1						X	2.4.49 - Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.	4.0	1
295014	Inadvertent Reactivity Addition / 1				X			AA1.02 - Recirculation flow control system	3.8	1
295015	Incomplete SCRAM / 1		X					AK2.11 - Instrument air	3.7	1
295017	High Off-Site Release Rate / 9					X		AA2.01 - †Off-site release rate: Plant-Specific	4.2*	1
295023	Refueling Accidents / 8						X	2.1.12 - Ability to apply technical specifications for a system.	4.0	1
295024	High Drywell Pressure / 5	X						EK1.01 - Drywell integrity: Plant-Specific	4.2*	1
295024	High Drywell Pressure / 5		X					EK2.08 - ADS: Plant-Specific	4.1	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
295025	High Reactor Pressure / 3			X				EK3.05 - RCIC operation: Plant-Specific	3.7	1
295025	High Reactor Pressure / 3				X			EA1.03 - Safety/relief valves: Plant-Specific	4.4*	1
295026	Suppression Pool High Water Temperature / 5					X		EA2.03 - Reactor pressure	4.0	1
295030	Low Suppression Pool Water Level / 5						X	2.4.38 - Ability to take actions called for in the facility emergency plan, including (if required) supporting or acting as emergency coordinator.	4.0	1
295031	Reactor Low Water Level / 2		X					EK2.11 - Reactor Protection System	4.4*	1
295031	Reactor Low Water Level / 2			X				EK3.04 - Steam cooling	4.3*	1
295037	SCRAM Condition Present and Reactor Power Above APRM Downscale or Unknown / 1					X		EA2.05 - Control rod position	4.3*	1
295037	SCRAM Condition Present and Reactor Power Above APRM Downscale or Unknown / 1					X		EA2.03 - SBLC tank level	4.4*	1
295038	High Off-Site Release Rate / 9	X						EK1.02 - †Protection of the general public	4.4*	1
295038	High Off-Site Release Rate / 9			X				EK3.01 - †Implementation of site emergency plan	4.5*	1
500000	High Containment Hydrogen Concentration / 5				X			EA1.03 - Containment Atmosphere Control System	3.2	1

K/A Category Totals: 3 4 5 5 6 3

Group Point Total: 26

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
295002	Loss of Main Condenser Vacuum / 3				X			AA1.01 - Condensate system	2.6	1
295004	Partial or Complete Loss of D.C. Power / 6						X	2.2.7 - Knowledge of the process for conducting tests or experiments not described in the safety analysis report.	3.2	1
295004	Partial or Complete Loss of D.C. Power / 6			X				AK3.01 - †Load shedding: Plant-Specific	3.1	1
295008	High Reactor Water Level / 2					X		AA2.02 - Steam flow/feedflow mismatch	3.4	1
295012	High Drywell Temperature / 5	X						AK1.01 - Pressure/temperature relationship	3.5	1
295018	Partial or Complete Loss of Component Cooling Water / 8		X					AK2.01 - System loads	3.4	1
295019	Partial or Complete Loss of Instrument Air / 8						X	2.4.38 - Ability to take actions called for in the facility emergency plan, including (if required) supporting or acting as emergency coordinator.	4.0	1
295021	Loss of Shutdown Cooling / 4		X					AK2.07 - Reactor recirculation	3.2	1
295022	Loss of CRD Pumps / 1					X		AA2.01 - Accumulator pressure	3.6	1
295022	Loss of CRD Pumps / 1				X			AA1.02 - RPS	3.6	1
295028	High Drywell Temperature / 5	X						EK1.01 - Reactor water level measurement	3.7	1
295033	High Secondary Containment Area Radiation Levels / 9					X		EA2.03 - †Cause of high area radiation	4.2	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
295034	Secondary Containment Ventilation High Radiation / 9						X	2.4.38 - Ability to take actions called for in the facility emergency plan, including (if required) supporting or acting as emergency coordinator.	4.0	1
295034	Secondary Containment Ventilation High Radiation / 9			X				EK3.02 - Starting SBTG/FRVS: Plant-Specific	4.1	1
295035	Secondary Containment High Differential Pressure / 5	X						EK1.02 - †Radiation release	4.2	1
295035	Secondary Containment High Differential Pressure / 5		X					EK2.02 - SBTG/FRVS	3.8	1
295036	Secondary Containment High Sump/Area Water Level / 5			X				EK3.04 - Pumping secondary containment sumps	3.4	1

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

Group Point Total: 17

BWR SRO Final Examination Outline

Printed: 08/27/2000

Facility: Pilgrim Nuclear 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
203000	RHR/LPCI: Injection Mode (Plant Specific) / 2										X		A4.05 - Manual initiation controls	4.1*	1
211000	Standby Liquid Control System / 1				X								K4.03 - Keeping sodium pentaborate in solution	3.9	1
215004	Source Range Monitor (SRM) System / 7								X				A2.05 - Faulty or erratic operation of detectors/system	3.5	1
216000	Nuclear Boiler Instrumentation / 7											X	2.4.1 - Knowledge of EOP entry conditions and immediate action steps.	4.6	1
216000	Nuclear Boiler Instrumentation / 7		X										K2.01 - Analog trip system: Plant-Specific	2.8	1
218000	Automatic Depressurization System / 3											X	2.2.5 - Knowledge of the process for making changes in the facility as described in the safety analysis report.	2.7	1
218000	Automatic Depressurization System / 3	X											K1.01 - RHR/LPCI: Plant-Specific	4.1	1
223001	Primary Containment System and Auxiliaries / 5									X			A3.03 - System indicating light and alarms	3.3	1
223001	Primary Containment System and Auxiliaries / 5								X				A2.07 - High drywell pressure	4.3*	1
226001	RHR/LPCI: Containment Spray System Mode / 5							X					A1.10 - Emergency generator loading	3.2	1
226001	RHR/LPCI: Containment Spray System Mode / 5										X		A4.20 - Drywell pressure	3.8	1

BWR SRO Examination Outline

Facility: Pilgrim Nuclear 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
239002	Relief/Safety Valves / 3		X										K2.01 SRV solenoids	3.2*	1
241000	Reactor/Turbine Pressure Regulating System / 3									X			A3.09 – Control/governor valve operation	3.2	1
241000	Reactor/Turbine Pressure Regulating System / 3										X		A4.02 – Reactor pressure	4.1*	1
259002	Reactor Water Level Control System / 2					X							K5.03 – Water level measurement	3.2	1
261000	Standby Gas Treatment System / 9						X						K6.09 – Primary containment high pressure: Plant-Specific	3.3	1
261000	Standby Gas Treatment System / 9											X	2.1.33 – Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications	4.0	1
262001	A.C. Electrical Distribution / 6	X											K1.03 – Off-site power sources	3.8	1
262001	A.C. Electrical Distribution / 6			X									K3.03 – D.C. electrical distribution	3.2	1
264000	Emergency Generators (Diesel/Jet) / 6			X									K3.01 – Emergency core cooling systems	4.4*	1
264000	Emergency Generators (Diesel/Jet) / 6								X				A2.06 – Opening normal and/or alternate power to emergency bus	3.4	1
290001	Secondary Containment / 5					X							K5.01 Vacuum breaker operation: BWR-4	3.4*	1
290001	Secondary Containment / 5									X			A3.01 – Secondary containment isolation	4.0	1

K/A Category Totals:

2 2 2 1 2 1 1 3 3 3 3

Group Point Total:

23

BWR SRO Examination Outline

Facility: Pilgrim Nuclear 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
201001	Control Rod Drive Hydraulic System / 1		X										K2.02 – Scram valve solenoids	3.7	1
201006	Rod Worth Minimizer System (RWM) (Plant Specific) / 7				X								K4.03 – Select blocks/errors: Plant-Specific (Not BWR6)	3.4	1
214000	Rod Position Information System / 7						X						K6.01 – A.C. electric power	2.6	1
215002	Rod Block Monitor System / 7			X									K3.01 – Reactor manual control system: BWR-3, 4, 5	3.5	1
215002	Rod Block Monitor System / 7					X							K5.01 – Trip reference selection: Plant-Specific	2.8	1
215003	Intermediate Range Monitor (IRM) System / 7								X				A2.04 – Upscale or downscale trips	3.8	1
219000	RHR/LPCI: Torus/Suppression Pool Cooling Mode / 5											X	2.2.6 – Knowledge of the process for making changes in procedures as described in the safety analysis report	3.3	1
234000	Fuel Handling Equipment / 8							X					A1.03 – †core reactivity level	3.9	1
259001	Reactor Feedwater System / 2										X		A4.05 – Reactor water level	3.9	1
272000	Radiation Monitoring System / 7									X			A3.07 – Recorder indications	2.9	1
290003	Control Room HVAC / 9						X						K6.02 – Component cooling water systems	2.9	1
300000	Instrument Air System (IAS) / 8	X											K1.03 – Containment air	2.9	1
300000	Instrument Air System (IAS) / 8											X	2.2.29 – Knowledge of SRO fuel handling responsibilities	3.8	1

K/A Category Totals:

1 1 1 1 1 2 1 1 1 1 2

Group Point Total:

13

BWR SRO Final Examination Outline

Printed: 08/27/2000

Facility: Pilgrim Nuclear 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					A1.01 - Reactor power	3.8	1
239001	Main and Reheat Steam System / 3				X								K4.10 - Moisture removal from steam lines prior to admitting steam	3.0	1
288000	Plant Ventilation Systems / 9											X	2.2.11 - Knowledge of the process for controlling temporary changes.	3.4*	1
288000	Plant Ventilation Systems / 9						X						K6.03 - Plant air systems	2.7	1

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

Group Point Total: 4

Generic Knowledge and Abilities Outline (Tier 3)

Printed: 08/22/2000

BWR SRO Examination Outline

Form ES-401-5

Facility: Pilgrim Nuclear Power Station

Generic Category	KA	KA Topic	Imp.	Points
Conduct of Operations	2.1.6	Ability to supervise and assume a management role during plant transients and upset conditions.	4.3	1
	2.1.22	Ability to determine Mode of Operation.	3.3	1
	2.1.32	Ability to explain and apply system limits and precautions.	3.8	1
	2.1.19	Ability to use plant computer to obtain and evaluate parametric information on system or component status.	3.0	1
	2.1.25	Ability to obtain and interpret station reference materials such as graphs, monographs, and tables which contain performance data.	3.1	1
Category Total:			5	
Equipment Control	2.2.18	Knowledge of the process for managing maintenance activities during shutdown operations.	3.6	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.	3.3	1
	2.2.1	Ability to perform pre-startup procedures for the facility, including operating those controls associated with plant equipment that could affect reactivity.	3.6	1
	2.2.21	Knowledge of pre and post maintenance operability requirements.	3.5	1
Category Total:			4	
Radiation Control	2.3.10	Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure.	3.3	1
	2.3.6	Knowledge of the requirements for reviewing and approving release permits.	3.1	1
	2.3.11	Ability to control radiation releases.	3.2	1
	2.3.2	Knowledge of facility ALARA program.	2.9	1
Category Total:			4	

Generic Knowledge and Abilities Outline (Tier 3)

Printed: 08/22/2000

BWR SRO Examination Outline

Form ES-401-5

Facility: Pilgrim Nuclear Power Station

Generic Category	KA	KA Topic	Imp.	Points
Emergency Plan	2.4.45	Ability to prioritize and interpret the significance of each annunciator or alarm.	3.6	1
	2.4.2	Knowledge of system set points, interlocks and automatic actions associated with EOP entry conditions.	4.1	1
	2.4.23	Knowledge of the bases for prioritizing emergency procedure implementation during emergency operations.	3.8	1
	2.4.46	Ability to verify that the alarms are consistent with the plant conditions.	3.6	1

Category Total: 4

Generic Total: 17

6000

Plant-Specific Priorities			
System / Topic	Recommended Replacement for...	Reason	Points
295009 – AA2.01 Ability to determine and interpret the following as they apply to Low Reactor Water Level: Reactor Water Level.	295009 – AK1.03 Knowledge of the operational implications of the following concepts as they apply to the Low Reactor Water Level: Jet pump net positive suction head.	Jet pump NPSH is not a concern with lowering reactor water level due to an automatic recirc pump trip at –46" which ensures adequate NPSH for the recirc pump. Replace with a question related to Risk Significant Human Error Probabilities.	1
295023 - 2.1.12 Refueling Accidents - Ability to apply Technical Specifications for a system.	295023 – 2.4.26 Refueling Accidents - Knowledge of facility protection requirements including fire brigade and portable fire fighting equipment usage.	A question that relates fire protection with refueling accidents would be disjointed. An SRO level question to evaluate operability or basis of refuel equipment necessary to prevent a refueling accident more applicable to an SRO position.	1
295025 – EA1.03 – Ability to operate and/or monitor the following as they apply to High Reactor Pressure: Safety Relief Valves.	295026 – 2.4.15 Suppression Pool High Temperature - Knowledge of communications procedures associated with EOP implementation.	No discriminating communications procedure exists associated with high suppression pool temperature. Replace with a question related to Risk Significant Human Error Probabilities.	1
295033 – EA2.03 – Ability to determine and interpret the following as they apply to High Secondary Containment Area Radiation Levels: Cause of High Radiation	295033 – EA2.02 Ability to determine and interpret the following as they apply to High Secondary Containment Area Radiation Levels: Equipment operability.	Interpreting equipment operability for a high area rad level would be primarily an engineering function. Evaluating the cause of a high area rad level in order to take corrective action is more applicable to SRO responsibilities.	1
203000 – A4.05 Ability to manually operate and/or monitor in the control room: Manual initiation controls.	203000 – K4.13 Knowledge of RHR/LPCI: Injection Mode design feature(s) and/or interlock(s) which provide for the following: The prevention of leakage to the environment through LPCI/RHR heat exchanger: Plant-Specific.	RHR Hx at PNPS is cooled with a closed loop cooling system reducing the impact of a heat exchanger leak. Replace with a question related to Risk Significant Human Error Probabilities.	1
223001 – A2.07 Ability to (a) predict the impacts of the following on the Primary Containment System and Auxiliaries and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: High Drywell Pressure	223001 – A1.12 Ability to predict and/or monitor changes in parameters associated with operating the Primary Containment System and Auxiliaries including: Moisture concentration.	No limits or operational guidance are given in PNPS procedures for moisture concentration in the primary containment. Replace with a question related to Risk Significant Human Error Probabilities.	1
241000 – A4.02 Ability to manually operate and/or monitor in the control room: Reactor Pressure.	241000 – A2.23 Ability to (a) predict the impacts of the following on the Reactor Turbine Pressure Regulating System and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Turbine high eccentricity.	PNPS has a detailed procedure for turbine malfunctions including operator actions for vibration; however, no definitive procedures exist regarding response for high turbine eccentricity. Replace with a question related to Risk Significant Human Error Probabilities.	1

Plant-Specific Priorities			
System / Topic	Recommended Replacement for...	Reason	Points
261000 - 2.1.33 - Standby Gas Treatment System - Ability to recognize indications for system operating parameters which are entry level conditions for Technical Specifications.	261000 – 2.2.34 - Standby Gas Treatment System - Knowledge of the process for determining the internal and external effects on core reactivity.	No relationship exists between SGBT system and core reactivity. Replace with question that requires an evaluation of SGBT operability.	1
264000 - A2.06 Ability to (a) predict the impacts of the following on the Emergency Diesel Generators and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Opening normal and/or alternate power to the emergency bus.	264000 – K6.06 Knowledge of the effect that a loss or malfunction of the following will have on the: Emergency Diesel Generators: Battery charger.	Emergency Diesel Generators (EDG's) do not have independent DC batteries and charges; therefore, a question relating EDG's to battery chargers would be disjointed. Replace with a question related to High Risk Human Error Probabilities.	1
2.2.21 Knowledge of pre and post maintenance operability requirements.	2.2.10 Knowledge of the process for determining if the margin of safety, as defined in the basis of any Technical Specification, is reduced by a proposed change, test or experiment.	Process for determining margin of safety is a lengthy process that is not practical to include on a 5 hour written exam. Replace with question related to determining pre and post maintenance operability requirements. Weaknesses in this area have led to a number of related industry events.	1
Plant-Specific Priority Total (limit 10):			10

Facility: Pilgrim
Examination Level: SRO(I)

Date of Examination: 11/06/00
Operating Test Number: 1

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Plant Parameter Verification	JPM – Perform a short form heat balance.
	Security	Question #1: Actions for bomb threat Question #2: FFD requirements
A.2	Surveillance Testing	JPM: Determine RBCCW Pump Operability using Flow Rate Surveillance Test Data
A.3	Radiation Work Permits	Question #1: Required Radiological Postings. Question #2: Entering High Radiation Areas Under General RWP
A.4	Emergency protective action recommendations	JPM – Perform a Protective Action Recommendation using the DAPAR software.

Facility: Pilgrim
 Examination Level: SRO(I)

Date of Examination: 11/06/00
 Operating Test Number: 1

B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. Main Turbine Generator and Auxiliary Systems / "Connect the Turbine Generator to the Grid"	N,A,S	4
b. RxWLC / "Transfer from Manual to Automatic Level Control"	D,A,S,L	2
c. PCIS/Nuclear Steam Supply Shut-off / "Reset Group V Isolation Signal and use RCIC for Injection"	N,S	5
d. APRM/LPRM / "Perform an APRM Setdown Functional Test"	N,S	7
e. SBTG / "Manually Start SBTG and Vent the Torus"	M,A,S	9
f. Recirc. / "Respond to Recirc pump catastrophic seal failure"	M,S	1
g. Rx/Turbine Press. Regulating / "Transfer from the EPR to MPR"	D,A,S	3

B.2 Facility Walk-Through

a. CRDH / "Shift CRD Flow Control Valves"	D,R	1
b. A.C. Electrical / "Local Ops of the Station Blackout DG During a Station Blackout"	D	6
c. RHR/LPCI/Injection Mode / "X-Tie Fire Water to RHR"	D,R	4

* 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: Pilgrim Scenario No.: 1 Op-Test No.: 1

Examiners: _____ Operators: _____

Initial Conditions: 60% power, Shutdown Transformer (SDT) is OOS, 'A' SBLC pump OOS

Turnover: The Plant is operating at 60% power following a rod pattern exchange. Instructions for the shift are to raise power back to 100% power. We are on step [7](7.2[8]) in section 7.3 of 2.1.14. The Turbine Building operator reports that the 3rd RFP is ready to be started per 2.2.99 step 8. Reactor Engineering reports we are in a limiting control rod pattern (MCPR = 1.70). The RBM has been verified operable. The SDT is OOS for testing (day 1 of a 7 day LCO). 'A' SBLC pump is OOS for relief valve replacement (day 2 of 7 day LCO).

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	R-RO N-SRO	Raise power using Recirc from 60% to 65%.
2	N/A	N	Place the third Reactor Feed Pump in service
3	F1L8	I	'B' FWLC level instrument fails high. (TS Implications)
4	I/O	I	HPCI inadvertent start causing fuel damage/HPCI steam leak
5	N/A	M	Abnormal radiation levels in Secondary Containment leading to Alternate RPV Depressurization
6	COR4	C	HPCI fails to isolate
7	MS15	C	'D' SRV fails to open

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

Facility: Pilgrim Scenario No.: 2 Op-Test No.: 1

Examiners: _____ Operators: _____

Initial Conditions: 85% power, 'F' APRM is bypassed, 'B' SBLC system OOS

Turnover: The plant is operating at 85% power, 'F' APRM has failed downscale and is bypassed (Tracking LCO). 'B' SBLC system is OOS for squib valve replacement (Day 1 of a 7 day LCO). The orders for the shift are to continue reducing power so that a backwash may be performed on the main condenser. Currently on Step [4a] in Section 7.3 of 2.1.14, place 'B' FRV in 'MANUAL'. The feedwater correction factor has been blocked.

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	R-RO N-SRO	Reduce power using Recirc from 85% to 80%
2	N/A	N	Place 'B' FWLC in 'MANUAL'
3	I/O	I	'A' Recirc pump # 2 speed limiter failure (TS implications)
4	CW10	C	'B' Sea Water pump trip
5	MC03	M	Loss of Vacuum (Condenser Fouling) – ATWS (Q leg)
6	LP01	C	'A' SBLC pump fails to start
7	COR6	I	RWCU fails to isolate

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

Facility: Pilgrim Scenario No.: 3 Op-Test No.: 1

Examiners: _____ Operators: _____

Initial Conditions: 2% power with the mode switch in 'STARTUP', SRM 'B' is bypassed, 'B' RFP is OOS

Turnover: The plant is at 2% power during a plant startup following a Mid Cycle Outage. PNPS 2.1.1 is in progress and on step 112. Getting ready to place the mode switch in 'RUN'. SRM 'B' failed to retract and is bypassed (Tracking LCO). 'B' RFP is tagged out for a leaking seal, expected back next shift. The APRM Functional surveillance was completed last shift.

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	R-RO N-SRO	Raise reactor power from 2% to 5% using control rods.
2	N/A	N	Place the mode switch in the 'RUN' position
3	NM20/ RD11	I	'B' APRM fails upscale with a coincident blown RPS fuse.(Tech Spec Implications)
4	TC06	I	EPR oscillation
5	RX28	M	Reference line leak/rupture (small break LOCA), HPCI isolates on false low pressure signal
6	ED08	C	A1 lockout following scram (loss of normal high pressure feed) leading to Alternate RPV depressurization on low RPV level
7	I/O	C	RCIC cooling water valve fails to open leading to a loss of RCIC

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

Facility: Pilgrim Scenario No.: 4 Op-Test No.: 1

Examiners: _____ Operators: _____

Initial Conditions: 95% power, Startup Transformer is OOS, RCIC OOS

Turnover: The plant is at 95% following control rod exercising. The crew is to raise power back to 100%. The Startup Transformer is OOS for testing (Day 1 of a 3 day LCO). It is expected back next shift. RCIC is OOS (day 2 of a 7 day LCO). MSIV Twice Weekly surveillance (PNPS 8.7.4.5) is to be performed when power is back to 100%.

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	R-RO N-SRO	Raise reactor power using Recirc from 95% to 100%.
2	N/A	N	MSIV twice weekly surveillance
3	RP09/ NM17	I	Trip of 'A' RPS MG Set/LPRM fails high when RPS is placed on the backup (TS implications)
4	MT03	C	Turbine bearing high vibrations (10mils for 10 minutes)
5	ED06	C	Loss of offsite power following turbine trip/reactor scram
6	PC01	M	Medium break LOCA
7	SC01	I	RBIS failure

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