

Facility: Waterford III														Date of Exam: 10/5/00														Exam Level: SRO													
Tier	Group	K/A Category Points											Point Total																												
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *																													
1. Emergency & Abnormal Plant Evolutions	1	2	3	5				6	4			4	24																												
	2	3	1	3				3	3			3	16																												
	3	0	1	1				1	0			0	3																												
	Tier Totals	5	5	9				10	7			7	43																												
2. Plant Systems	1	2	0	2	2	1	1	3	1	3	2	2	19																												
	2	2	1	2	1	2	1	1	2	1	3	1	17																												
	3	1	0	0	0	0	1	0	0	1	1	0	4																												
	Tier Totals	5	1	4	3	3	3	4	3	5	6	3	40																												
3. Generic Knowledge and Abilities					Cat 1			Cat 2			Cat 3		Cat 4		17																										
					4			5			4		4																												
<p>Note: 1. Ensure that at least two topics from every K/A category are sampled within each tier (i.e., the "Tier Totals" in each K/A category shall not be less than two).</p> <p>2. Actual point totals must match those specified in the table.</p> <p>3. Select topics from many systems; avoid selecting more than two or three K/A topics from a given system unless they relate to plant-specific priorities.</p> <p>4. Systems/evolutions within each group are identified on the associated outline.</p> <p>5. The shaded areas are not applicable to the category/tier.</p> <p>6.* The generic K/As in Tiers 1 and 2 shall be selected from Section 2 of the K/A Catalog, but the topics must be relevant to the applicable evolution or system.</p> <p>7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings for the SRO license level, and the point totals for each system and category. K/As below 2.5 should be justified on the basis of plant-specific priorities. Enter the tier totals for each category in the table above.</p>																																									

ES-401 PWR SRO Examination Outline Form ES-401-3  
Emergency and Abnormal Plant Evolutions - Tier 1/Group 1

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000001 Continuous Rod Withdrawal / 1	X						AK1.20 - Knowledge of the operational implications of the following concepts as they apply to Continuous Rod Withdrawal: Differential rod worth (CFR 41.8 / 41.10 / 45.3)	3.3	1
000003 Dropped Control Rod / 1		X					AK2.05 - Knowledge of the interrelations between the Dropped Control Rod and the following: Control rod drive power supplies and logic circuits (CFR 41.7 / 45.7)	2.8	1
000005 Inoperable/Stuck Control Rod / 1			X				AK3.02 - Knowledge of the reasons for the following responses as they apply to the Inoperable / Stuck Control Rod: Rod insertion limits (CFR 41.5,41.10 / 45.6 / 45.13)	4.2	1
000011 Large Break LOCA / 3				X			EA1.03 - Ability to operate and monitor the following as they apply to a Large Break LOCA: Securing of RCPs (CFR 41.7 / 45.5 / 45.6)	4.0	1
W/E04 LOCA Outside Containment / 3							Not applicable. Waterford III is a CE plant.	N/A	0
W/E01 & E02 Rediagnosis & SI Termination / 3							Not applicable. Waterford III is a CE plant	N/A	0
000015/17 RCP Malfunctions / 4		X					AK2.08 - Knowledge of the interrelations between the Reactor Coolant Pump Malfunctions (Loss of RC Flow) and the following: CCWS (CFR 41.7 / 45.7)	2.6	1
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4						X	2.1.32 - Ability to explain and apply all system limits and precautions. (CFR: 41.10 / 43.2 / 45.12)	3.8	1
000024 Emergency Boration / 1		X					AK2.04 - Knowledge of the interrelations between the Emergency Boration and the following: Pumps (CFR 41.7 / 45.7)	2.5	1
000026 Loss of Component Cooling Water / 8			X				AK3.03 - Knowledge of the reasons for the following responses as they apply to the Loss of Component Cooling Water: Guidance actions contained in EOP for Loss of CCW (CFR 41.5,41.10 / 45.6 / 45.13)	4.2	1
000026 Loss of Component Cooling Water / 8					X		AA2.02 Ability to determine and interpret the following as they apply to the Loss of Component Cooling Water: The cause of possible CCW loss (CFR: 43.5 / 45.13)	3.6	1
000029 Anticipated Transient w/o Scram / 1				X			EA1.12 - Ability to operate and monitor the following as they apply to a ATWS: M/G set power supply and reactor trip breakers (CFR 41.7 / 45.5 / 45.6)	4.0	1
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4			X				EK3.3 - Knowledge of the reasons for the following responses as they apply to the (Excess Steam Demand) Manipulation of controls required to obtain desired operating results during abnormal, and emergency situations. (CFR: 41.5 / 41.10, 45.6, 45.13)	4.0	1
CE/A11; W/E08 RCS Overcooling - PTS / 4						X	2.4.23 - Knowledge of the bases for prioritizing emergency procedure implementation during emergency operations. (CFR: 41.10 / 45.13)	3.8	1
000051 Loss of Condenser Vacuum / 4					X		AA2.01 - Ability to determine and interpret the following as they apply to the Loss of Condenser Vacuum: Cause for low vacuum condition (CFR: 43.5 / 45.13)	2.7*	1
000051 Loss of Condenser Vacuum / 4				X			AA1.04 - Ability to operate and / or monitor the following as they apply to the Loss of Condenser Vacuum: Rod position (CFR 41.7 / 45.5 / 45.6)	2.5*	1

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 Emergency and Abnormal Plant Evolutions - Tier 1/Group 1

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000055 Station Blackout / 6						X	2.4.21 - Knowledge of the parameters and logic used to assess the status of safety functions including: Reactivity control, Core cooling and heat removal, Reactor coolant system integrity, Containment conditions, and Radioactivity release control. (CFR: 43.5 / 45.12)	4.3	1
000057 Loss of Vital AC Elec. Inst. Bus / 6			X				AK3.01 - Knowledge of the reasons for the following responses as they apply to the Loss of Vital AC Instrument Bus: Actions contained in EOP for loss of vital ac electrical instrument bus (CFR 41.5,41.10 / 45.6 / 45.13)	4.4	1
000057 Loss of Vital AC Elec. Inst. Bus / 6				X			AA1.06 - Ability to operate and / or monitor the following as they apply to the Loss of Vital AC Instrument Bus: Manual control of components for which automatic control is lost (CFR 41.7 / 45.5 / 45.6)	3.5	1
000059 Accidental Liquid RadWaste Rel. / 9					X		AA2.04 - Ability to determine and interpret the following as they apply to the Accidental Liquid Radwaste Release: The valve lineup for a release of radioactive liquid (CFR: 43.5 / 45.13)	3.5*	1
000062 Loss of Nuclear Service Water / 4				X			AA1.05 - Ability to operate and / or monitor the following as they apply to the Loss of Nuclear Service Water (SWS): The CCWS surge tank, including level control and level alarms, and radiation alarm (CFR 41.7 / 45.5 / 45.6)	3.1	1
000067 Plant Fire On-site / 9				X			AA1.01 - Ability to operate and / or monitor the following as they apply to the Plant Fire on Site: Respirator air pack (CFR 41.7 / 45.5 / 45.6)	3.6	1
000068 (BW/A06) Control Room Evac. / 8			X				AK3.06 - Knowledge of the reasons for the following responses as they apply to the Control Room Evacuation: Transfer of S/G atmospheric relief valves to local control; operation to maintain specified T-ave (CFR 41.5,41.10 / 45.6 / 45.13)	4.3	1
000069 (W/E14) Loss of CTMT Integrity / 5	X						AK1.01 - Knowledge of the operational implications of the following concepts as they apply to Loss of Containment Integrity: Effect of pressure on leak rate (CFR 41.8 / 41.10 / 45.3)	3.1	1
000074 (W/E06&E07) Inad. Core Cooling / 4					X		EA2.01 - Ability to determine or interpret the following as they apply to a Inadequate Core Cooling: Subcooling margin (CFR 43.5 / 45.13)	4.9	1
BW/E03 Inadequate Subcooling Margin / 4							Not Applicable. Waterford III is a CE plant.	N/A	0
000076 High Reactor Coolant Activity / 9						X	2.2.25 - Knowledge of bases in technical specifications for limiting conditions for operations and safety limits. (CFR: 43.2)	3.7	1
BW/A02&A03 Loss of NNI-X/Y / 7							Not Applicable. Waterford III is a CE plant.	N/A	0
K/A Category Totals:	2	3	5	6	4	4	Group Point Total:		24

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Emergency and Abnormal Plant Evolutions - Tier 1/Group 2

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000007 (BW/E02&E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1						X	2.1.33 - Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications. (CFR: 43.2 / 43.3 / 45.3)	4.0	1
BW/A01 Plant Runback / 1							Not Applicable. Waterford III is a CE plant.	N/A	0
BW/A04 Turbine Trip / 4							Not Applicable. Waterford III is a CE plant.	N/A	0
000008 Pressurizer Vapor Space Accident / 3			X				AK3.05 - Knowledge of the reasons for the following responses as they apply to the Pressurizer Vapor Space Accident: ECCS termination or throttling criteria (CFR 41.5,41.10 / 45.6 / 45.13)	4.5	1
000009 Small Break LOCA / 3					X		EA2.32 - Ability to determine or interpret the following as they apply to a small break LOCA: SDM (CFR 43.5 / 45.13)	3.6	1
BW/E08; W/E03 LOCA Cooldown - Depress. / 4							Not Applicable. Waterford III is a CE plant.	N/A	0
W/E11 Loss of Emergency Coolant Recirc. / 4							Not Applicable. Waterford III is a CE plant.	N/A	0
000022 Loss of Reactor Coolant Makeup / 2						X	2.4.46 - Ability to verify that the alarms are consistent with the plant conditions. (CFR: 43.5 / 45.3/45.12)	3.6	1
000025 Loss of RHR System / 4				X			AA1.12 - Ability to operate and / or monitor the following as they apply to the Loss of Residual Heat Removal System: RCS temperature indicators (CFR 41.7 / 45.5 / 45.6)	3.5	1
000027 Pressurizer Pressure Control System Malfunction / 3	X						AK1.03 - Knowledge of the operational implications of the following concepts as they apply to Pressurizer Pressure Control Malfunctions: Latent heat of vaporization/condensation (CFR 41.8 / 41.10 / 45.3)	2.9	1
000032 Loss of Source Range NI / 7					X		AA2.07 - Ability to determine and interpret the following as they apply to the Loss of Source Range Nuclear Instrumentation: Maximum allowable channel disagreement (CFR: 43.5 / 45.13)	3.4	1
000033 Loss of Intermediate Range NI / 7		X					AK2.01 - Knowledge of the interrelations between the Loss of Intermediate Range Nuclear Instrumentation and the following: Power supplies, including proper switch position (CFR 41.7 / 45.7)	2.9	1
000037 Steam Generator Tube Leak / 3	X						AK1.02 - Knowledge of the operational implications of the following concepts as they apply to Steam Generator Tube Leak: Leak rate vs. pressure drop (CFR 41.8 / 41.10 / 45.3)	3.9	1
000038 Steam Generator Tube Rupture / 3				X			EA1.24 - Ability to operate and monitor the following as they apply to a SGTR: Safety injection pump ammeter and indicators (CFR 41.7 / 45.5 / 45.6)	3.4	1
000054 (CE/E06) Loss of Main Feedwater / 4			X				EK3.3 - Knowledge of the reasons for the following responses as they apply to the (Loss of Feedwater): Manipulation of controls required to obtain desired operating results during abnormal, and emergency situations. (CFR: 41.5 / 41.10, 45.6 / 45.13)	3.8	1
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4							Not Applicable. Waterford III is a CE plant.	N/A	0
000058 Loss of DC Power / 6				X			AA1.02 - Ability to operate and / or monitor the following as they apply to the Loss of DC Power: Static inverter dc input breaker, frequency meter, ac output breaker, and ground fault detector (CFR 41.7 / 45.5 / 45.6)	3.1	1

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 Emergency and Abnormal Plant Evolutions - Tier 1/Group 2

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000060 Accidental Gaseous Radwaste Rel. / 9	X						AK1.02 - Knowledge of the operational implications of the following concepts as they apply to Accidental Gaseous Radwaste Release: Biological effects on humans of the various types of radiation, exposure levels that are acceptable for personnel in a nuclear reactor power plant; the units used for radiation intensity measurements and for radiation exposure levels (CFR 41.8 / 41.10 / 45.3)	3.1	1
000061 ARM System Alarms / 7						X	2.4.11 - Knowledge of abnormal condition procedures. (CFR: 41.10 / 43.5 / 45.13)	3.6	1
W/E16 High Containment Radiation / 9							Not Applicable. Waterford III is a CE plant.	N/A	0
000065 Loss of Instrument Air / 8			X				AK3.04 - Knowledge of the reasons for the following responses as they apply to the Loss of Instrument Air: Cross-over to backup air supplies (CFR 41.5,41.10 / 45.6 / 45.13)	3.2	1
CE/E09 Functional Recovery					X		EA2.2 - Ability to determine and interpret the following as they apply to the (Functional Recovery): Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments. (CFR: 43.5 / 45.13)	4.0	1
K/A Category Point Totals:	3	1	3	3	3	3	Group Point Total:		16

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 Emergency and Abnormal Plant Evolutions - Tier 1/Group 3

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000028 Pressurizer Level Malfunction / 2			X				AK3.05 - Knowledge of the reasons for the following responses as they apply to the Pressurizer Level Control Malfunctions: Actions contained in EOP for PZR level malfunction (CFR 41.5,41.10 / 45.6 / 45.13)	4.1	1
000036 (BW/A08) Fuel Handling Accident / 8							Deselected topic by random selection.	N/A	0
000056 Loss of Off-site Power / 6				X			AA1.09 - Ability to operate and / or monitor the following as they apply to the Loss of Offsite Power: CCW pump (CFR 41.7 / 45.5 / 45.6)	3.3	1
BW/E13&E14 EOP Rules and Enclosures							Not Applicable. Waterford III is a CE plant.	N/A	0
BW/A05 Emergency Diesel Actuation / 6							Not Applicable. Waterford III is a CE plant.	N/A	0
BW/A07 Flooding / 8							Not Applicable. Waterford III is a CE plant.	N/A	0
CE/A16 Excess RCS Leakage / 2		X					AK2.2 - Knowledge of the interrelations between the (Excess RCS Leakage) and the following: Facility heat removal systems, including primary coolant, emergency coolant, the decay heat removal systems, and relations between the proper operation of these systems to the operation of the facility. (CFR: 41.7 / 45.7)	3.3	1
W/E13 Steam Generator Over-pressure / 4							Not Applicable. Waterford III is a CE plant.	N/A	0
W/E15 Containment Flooding / 5							Not Applicable. Waterford III is a CE plant.	N/A	0
K/A Category Point Totals:	0	1	1	1	0	0	Group Point Total:		3

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Plant Systems - Tier 2/Group 1

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
001 Control Rod Drive	X											K1.01 Knowledge of the physical connections and/or cause-effect relationships between the CRDS and the following systems: CCW (CFR: 41.2 to 41.9 / 45.7 to 45.8)	3.2*	1
003 Reactor Coolant Pump				X								K4.07 - Knowledge of RCPS design feature(s) and/or interlock(s) which provide for the following: Minimizing RCS leakage (mechanical seals) (CFR: 41.7)	3.4	1
004 Chemical and Volume Control						X						K6.38 - Knowledge of the effect of a loss or malfunction on the following CVCS components: Methods of minimizing the amount of RCS coolant water processed and reducing the amount of waste water generated (CFR: 41.7 / 45.7)	3.2	1
004 Chemical and Volume Control									X			A3.02 - Ability to monitor automatic operation of the CVCS, including: Letdown isolation (CFR: 41.7 / 45.5)	3.6	1
013 Engineered Safety Features Actuation										X		A4.01 - Ability to manually operate and/or monitor in the control room: ESFAS-initiated equipment which fails to actuate (CFR: 41.7 / 45.5 to 45.8)	4.8	1
013 Engineered Safety Features Actuation											X	2.1.32 - Ability to explain and apply all system limits and precautions. (CFR: 41.10 / 43.2 / 45.12)	3.8	1
014 Rod Position Indication							X					A1.04 - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the RPIS controls, including: Axial and radial power distribution (CFR: 41.5/45.5)	3.8	1
015 Nuclear Instrumentation			X									K3.02 - Knowledge of the effect that a loss or malfunction of the NIS will have on the following: CRDS (CFR: 41.7 / 45.6)	3.5*	1
017 In-core Temperature Monitor								X				A2.02 - Ability to (a) predict the impacts of the following malfunctions or operations on the ITM system; and (b) based on those predictions, use procedures to correct, control or mitigate the consequences of those malfunctions or operations: Core damage (CFR: 41.5 / 43.5 / 45.3 / 45.5)	4.1	1
022 Containment Cooling							X					A1.02 - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the CCS controls including: Containment pressure (CFR: 41.5 / 45.5)	3.8	1
025 Ice Condenser												Not Applicable. Waterford III is a CE plant.	N/A	0

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Plant Systems - Tier 2/Group 1

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
026 Containment Spray									X			A3.01 - Ability to monitor automatic operation of the CSS, including: Pump starts and correct MOV positioning (CFR: 41.7 / 45.5)	4.5	1
056 Condensate											X	2.4.31 - Knowledge of annunciators alarms and indications, and use of the response instructions. (CFR: 41.10 /45.3)	3.4	1
059 Main Feedwater									X			A3.02 - Ability to monitor automatic operation of the MFW, including: Programmed levels of the S/G (CFR: 41.7 / 45.5)	3.1	1
061 Auxiliary/Emergency Feedwater							X					A1.04 - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the AFW controls including: AFW source tank level (CFR: 41.5/45.5)	3.9	1
061 Auxiliary/Emergency Feedwater			X									K3.02 - Knowledge of the effect that a loss or malfunction of the AFW will have on the following: S/G (CFR: 41.7 / 45.6)	4.4	1
063 DC Electrical Distribution	X											K1.04 - Knowledge of the physical connections and/or cause- effect relationships between the DC electrical system and the following systems: Battery ventilation system (CFR: 41.2 to 41.9 / 45.7 to 45.8)	2.7	1
068 Liquid Radwaste										X		A4.02 - Ability to manually operate and/or monitor in the control room: Remote radwaste release (CFR: 41.7 / 45.5 to 45.8)	3.1	1
071 Waste Gas Disposal					X							K5.05 - Knowledge of the operational implication of the following concepts as they apply to the Waste Gas Disposal System: Methods of measuring hydrogen gas concentration (CFR: 41.5 / 45.7)	2.7	1
072 Area Radiation Monitoring				X								K4.02 - Knowledge of ARM system design features and/or interlocks which provide for the following: Fuel Bldg Isolation (CFR: 41.7)	3.4*	1
K/A Category Point Totals:	2	0	2	2	1	1	3	1	3	2	2	Group Point Total:		19



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Plant Systems - Tier 2/Group 2

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
002 Reactor Coolant											X	2.4.45 - Ability to prioritize and interpret the significance of each annunciator or alarm. (CFR: 43.5 / 45.3/45.12)	3.6	1
006 Emergency Core Cooling							X					A1.04 - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the ECCS controls including: D/P across accumulator isolation valve (CFR: 41.5/45.5)	2.5	1
010 Pressurizer Pressure Control				X								K4.02 - Knowledge of PZR PCS design feature(s) and/or inter-lock(s) which provide for the following: Prevention of uncovering PZR heaters (CFR: 41.7)	3.4	1
011 Pressurizer Level Control								X				A2.03 - Ability to (a) predict the impacts of the following malfunctions or operations on the PZR LCS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of PZR level (CFR: 41.5/43.5/45.3/45.13)	3.9	1
012 Reactor Protection			X									K3.04 - Knowledge of the effect that a loss or malfunction of the RPS will have on the following: ESFAS (CFR: 41.7 / 45.6)	4.1*	1
016 Non-nuclear Instrumentation									X			A3.02 - Ability to monitor automatic operation of the NNIS, including Relationship between meter readings and actual parameter value: (CFR: 41.7 / 45.5)	2.9*	1
027 Containment Iodine Removal					X							K5.01 - Knowledge of the operational implications of the following concepts as they apply to the CIRS (ARRS): Purpose of charcoal filters (CFR: 41.7 / 45.7)	3.4*	1
028 Hydrogen Recombiner and Purge Control	X											K1.01 - Knowledge of the physical connections and/or cause-effect relationships between the HRPS and the following systems: Containment annulus ventilation system (including pressure limits) (CFR: 41.2 to 41.9 / 45.7 to 45.8)	2.5	1
029 Containment Purge		X										K2.03 - Knowledge of bus power supplies to the following: Purge exhaust radiation monitors (CFR: 41.7)	2.7*	1
033 Spent Fuel Pool Cooling										X		A4.02 - Ability to manually operate and/or monitor in the control room: SFPCS valves (CFR: 41.7 / 45.5 to 45.8)	2.8	1
034 Fuel Handling Equipment						X						K6.02 - Knowledge of the effect of a loss or malfunction on the following will have on the Fuel Handling System: Radiation monitoring systems (CFR: 41.7 / 45.7)	3.3	1

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Plant Systems - Tier 2/Group 2

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
035 Steam Generator			X									K3.02 - Knowledge of the effect that a loss or malfunction of the S/GS will have on the following: ECCS (CFR: 41.7 / 45.6)	4.3	1
039 Main and Reheat Steam										X		A4.04 - Ability to manually operate and/or monitor in the control room: Emergency feedwater pump turbines (CFR: 41.7 / 45.5 to 45.8)	3.9	1
055 Condenser Air Removal												Deselected topic by random selection.	N/A	0
062 AC Electrical Distribution								X				A2.11 - Ability to (a) predict the impacts of the following malfunctions or operations on the ac distribution system; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Aligning standby equipment with correct emergency power source (D/G) (CFR: 41.5 / 43.5 / 45.3 / 45.13)	4.1	1
064 Emergency Diesel Generator	X											K1.05 - Knowledge of the physical connections and/or cause- effect relationships between the ED/G system and the following systems: Starting air system (CFR: 41.2 to 41.9 / 45.7 to 45.8)	3.9	1
073 Process Radiation Monitoring										X		A4.02 - Ability to manually operate and/or monitor in the control room: Radiation monitoring system control panel (CFR: 41.7 / 45.5 to 45.8)	3.7	1
075 Circulating Water												Deselected topic by random selection.	N/A	0
079 Station Air												Deselected topic by random selection.	N/A	0
086 Fire Protection					X							K5.04 - Knowledge of the operational implication of the following concepts as they apply to the Fire Protection System: Hazards to personnel as a result of fire type and methods of protection (CFR: 41.5 / 45.7)	3.5	1
103 Containment												Deselected topic by random selection.	N/A	0
K/A Category Point Totals:	2	1	2	1	2	1	1	2	1	3	1	Group Point Total:		17

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 Plant Systems - Tier 2/Group 3

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
005 Residual Heat Removal						X						K6.11 - Knowledge of the effect that a loss or malfunction of the following will have on the RHRs (SDC): RHR (SDC) heat exchanger and outlet flow control (CFR: 41.7 / 45.7)	2.7*	1
007 Pressurizer Relief/Quench Tank												Deselected topic by random selection.	N/A	0
008 Component Cooling Water									X			A3.06 - Ability to monitor automatic operation of the CCWS, including: Typical CCW pump operating conditions, including vibration and sound levels and motor current (CFR: 41.7 / 45.5)	2.5	1
041 Steam Dump/Turbine Bypass Control												Deselected topic by random selection.	N/A	0
045 Main Turbine Generator												Deselected topic by random selection.	N/A	0
076 Service Water	X											K1.20 - Knowledge of the physical connections and/or cause-effect relationships between the SWS (ACCW) and the following systems: AFW (CFR: 41.2 to 41.9 / 45.7 to 45.8)	3.4*	1
078 Instrument Air										X		A4.01 - Ability to manually operate and/or monitor in the control room: Pressure gauges (CFR: 41.7 / 45.5 to 45.8)	3.1	1
K/A Category Point Totals:	1	0	0	0	0	1	0	0	1	1	0	Group Point Total:		4

ES-401 PWR SRO Examination Outline Form ES-401-3  
Plant Systems - Tier 2/Group 3

Plant-Specific Priorities

System / Topic	Recommended Replacement for...	Reason	Points
Plant-Specific Priority Total: (limit 10)			

Facility: Waterford 3		Date of Exam: 10/10/00		Exam Level: SRO	
Category	K/A #	Topic	Imp.	Points	
Conduct of Operations	2.1.10	Knowledge of conditions and limitations in the facility license. (CFR: 43.51/ 45.13)	3.9	1	
	2.1.23	2.1.23 Ability to perform specific system and integrated plant procedures during all modes of plant operation. (CFR: 45.2 / 45.6)	4.0	1	
	2.1.29	2.1.29 Knowledge of how to conduct and verify valve lineups. (CFR: 41.10 / 45.1 / 45.12)	3.3	1	
	2.1.31	Ability to locate control room switches, controls and indications and to determine that they are correctly reflecting the desired plant lineup. (CFR: 45.12)	3.9	1	
	Total				4
Equipment Control	2.2.11	Knowledge of the process for controlling temporary changes. (CFR: 41.10 / 43.3 / 45.13)	3.4*	1	
	2.2.22	Knowledge of limiting conditions for operations and safety limits. (CFR: 43.2 / 45.2)	4.1	1	
	2.2.27	Knowledge of the refueling process. (CFR: 43.6 / 45.13)	3.5	1	
	2.2.28	Knowledge of new and spent fuel movement procedures. (CFR: 43.7 / 45.13)	3.5	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. (CFR: 45.12)	3.3	1	
	Total				5
Radiation Control	2.3.1	Knowledge of 10 CFR: 20 and related facility radiation control requirements. (CFR: 41.12 / 43.4 45.9 /45.10)	3.0	1	
	2.3.6	Knowledge of the requirements for reviewing and approving release permits. (CFR: 43.4 / 45.10 )	3.1	1	
	2.3.8	Knowledge of the process for performing a planned gaseous radioactive release. (CFR: 43.4 / 45.10 )	3.2	1	
	2.3.10	Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure. (CFR: 43.4 / 45.10)	3.3	1	
	Total				4
Emergency Procedures/ Plan	2.4.22	Knowledge of the bases for prioritizing safety functions during abnormal/emergency operations. (CFR: 43.5 / 45.12)	4.0	1	
	2.4.28	Knowledge of procedures relating to emergency response to sabotage. (CFR: 41.10 / 43.5 / 45.13)	3.3	1	
	2.4.49	Ability to perform without reference to procedures those actions that require immediate operation of system components and controls. (CFR: 41.10 / 43.2 / 45.6)	4.0	1	
	2.4.50	Ability to verify system alarm setpoints and operate controls identified in the alarm response manual. (CFR: 45.3)	3.3	1	
	Total				4
Tier 3 Point Total RO(SRO)				13(17)	

Answer Key

**Waterford 3 Examination Question  
Examination Bank**

**Examination Question Number** 1

**QUESTION ID:** 5838 - A  
**DESCRIPTION:** Power Change as a result of continuous rod withdrawal  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/24/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/24/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** PPO **CATEGORY:** THEORY  
TYR  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
W-3-LP-OPS-TYR05  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
4.2-A1-AK1.20 3.1 3.3 W-3-LP-OPS-TYR05 5

**QUESTION**

---

CEA Reg Group 6 dropped into the core during a reactor power cutback and is being withdrawn. Which of the following would result in the largest positive reactivity addition if a continuous rod withdrawal event were to start and terminate between the given heights? Assume an initial ASI of -0.1 for each case.

- A. 10"-20"
- B. 40"-50"
- C. 100"-110"
- D. 140"-150"

**ANSWER**

---

C

**COMMENTS**

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	Comp or Analysis	New	41.8/41.10

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 2

**QUESTION ID:** 5756 - A  
**DESCRIPTION:** Effect of opening CEA disconnects for CEAs energized by the hold bus  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 6/20/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 6/20/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** CED **CATEGORY:** SYSTEM  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 457000102 08 9/5/91  
 OP-004-004 08 02 1/4/2000  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.2-A3-AK2.05 2.5 2.8 W-3-LP-OPS-CED00 13

### QUESTION

CEA 23 has dropped into the core and its rod bottom light is illuminated on CP-2. Locally a check of the ACTM card shows an abnormal voltage applied to the upper gripper coil. The RAB watch is placing Regulating Group 6 on the hold bus. The RAB watch opens the disconnects for CEAs 20, 21, 22, and 23 after noting that all CEAs are being held by their upper grippers. Which of the following occurs as a result of this action?

- A. The reactor remains critical and the CEAs have power applied to the upper gripper from the hold bus only.
- B. The reactor remains critical and the CEAs have power applied to the lower gripper from the hold bus only.
- C. The reactor remains critical and the CEAs have power applied to the upper gripper and lower gripper from the hold bus only.
- D. The reactor trips when the disconnect for any CEA other than CEA 23 is opened because more than one CPC senses a dropped CEA.

### ANSWER

A

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	Comp or Analysis	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 3  
**QUESTION ID:** 3322 - A  
**DESCRIPTION:** bases for TIL limits  
**AUTHOR:** avest **REVISION** 2 **REVISION DATE** 8/11/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 8/11/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO **SIMULATOR SETUP**  
**PLANT SYSTEM:** TS **CATEGORY:** PROCEDURE  
SRO LEVEL  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
TS BASES  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
4.2-A5-AK3.02 3.6 4.2 W-3-LP-OPS-CED00 3

### QUESTION

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Which of the following is a bases for Transient CEA Insertion Limits?

- A. Ensures > 2 % shutdown margin during an excess steam demand accident at Beginning of Cycle.
- B. Ensures that Peak Linear Heat Rate limits are not exceeded in assemblies adjacent to inserted CEAs.
- C. Ensures axial shape index is maintained within the limits of the UFSAR accident analysis.
- D. Ensures the potential effects of a CEA ejection accident are limited to acceptable levels.

### ANSWER

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D

### COMMENTS

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Reference Tech Spec Bases Pg. B 3/4 1-5

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	Memory or Fundamental	Bank	41.5/41.10



## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 4

**QUESTION ID:** 5757 - A

**DESCRIPTION:** Determine desired status of RCPs

**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 6/20/2000

**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 6/20/2000

**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1

**SPECIAL REFERENCES:** YES

**PLANT SYSTEM:** PPE **CATEGORY:** PROCEDURE  
RCP SRO LEVEL

REFERENCE:	REVISION:	CHANGE:	DATE:
OP-902-000	08	00	9/8/98
OP-902-002	08	00	9/9/98
OP-902-009	0.1	00	9/9/98

**NRC KA NUMBER:** RO SRO **TRAINING MATERIAL:** OBJECTIVE  
4.1-E11-EA1.03 4.0 4.0 W-3-LP-OPS-PPE01 10

### QUESTION

The following conditions are present:

- A reactor trip occurred when RCP 1B tripped
- RCS Pressure - 1100 psia and lowering
- RCS T<sub>H</sub> and CETs - 550°F and stable
- T<sub>C</sub> - 545°F and stable
- Containment Pressure - 16.9 psia and rising
- RCPs 1A, 2A, and 2B are running

The CRS is verifying Standard Post Trip Actions. Based on all current conditions what guidance should the CRS give the PNPO?

- A. Secure Reactor Coolant Pump 2A only
- B. Secure Reactor Coolant Pump 2B only
- C. Secure Reactor Coolant Pumps 1A and 2A
- D. Secure All Reactor Coolant Pumps

### ANSWER

D

### COMMENTS

Provide Steam Tables and Attachment 2-A of OP-902-009 to examinees

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	COMP OR ANALYSIS	NEW	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 5

**QUESTION ID:** 5758 - A  
**DESCRIPTION:** Requirements to secure RCPs following a loss of CCW  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 6/20/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 6/20/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** PPO **CATEGORY:** PROCEDURE  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-901-510 03 01 11/3/99  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.2-A15/17-AK2.08 2.6 2.6 W-3-LP-OPS-PPO50 3

### QUESTION

The plant is at 100% power when a high CCW system temperature occurs. The CCW isolation valves to all RCP seal coolers go closed. The isolation valve for RCP 1A will not re-open. Which of the following is the prescribed course of action?

- A. Perform a plant shutdown using OP-901-212, Rapid Plant Power Reduction, and then secure RCP 1A.
- B. Fail open the CCW isolation to RCP 1A seal cooler by closing IA Containment Isolation, IA-909.
- C. Trip the reactor manually, secure RCP 1A, and implement OP-902-000, Standard Post Trip Actions.
- D. Locally open the CCW isolation to RCP 1A seal cooler before reaching a CBO return temp of > 200°F.

### ANSWER

C

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	MEMORY OR FUNDAMENTAL	NEW	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 6

**QUESTION ID:** 5763 - A

**DESCRIPTION:** Natural circulation cooldown limits and bases

**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 6/20/2000

**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 6/20/2000

**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1

**SPECIAL REFERENCES:** NO

**PLANT SYSTEM:** PPE **CATEGORY:** PROCEDURE  
SRO LEVEL

REFERENCE:	REVISION:	CHANGE:	DATE:
OP-902-007	09	00	9/9/98
OP-902-002	08	00	9/9/98
OP-902-008	11	00	9/9/98
OP-902-004	08	00	9/9/98
OP-902-005	10	00	9/9/98
OP-902-003	03	00	9/9/98
OP-902-006	08	00	9/9/98

NRC KA NUMBER:	RO	SRO	TRAINING MATERIAL:	OBJECTIVE
2-1-32	3.4	3.8	W-3-LP-OPS-PPE05	7

### QUESTION

When performing a natural circulation cooldown between MODE 3 and MODE 5 the cooldown limit is changed from the forced circulation limit of 100°F/hr to \_\_\_\_\_ to prevent \_\_\_\_\_.

- A. 60°F/hr; impeding natural circulation due to excessive heat removal causing abnormal density changes
- B. 50°F/hr; forming a bubble in the head when depressurizing the RCS during the cooldown
- C. 30°F/hr; a rapid depressurization of the S/Gs due to lower heat transfer from primary
- D. 10°F/hr; excessive thermal stresses due to the differential temperature from bottom to top of vessel

### ANSWER

B

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	MEMORY OR FUNDAMENTAL	NEW	41.10/43.2

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 7

**QUESTION ID:** 5798 - A  
**DESCRIPTION:** Interrelationship between Emergency Boration and Bus Power  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/11/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/11/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** CVC **CATEGORY:** PROCEDURE  
PPE SYSTEM  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
OP-902-000 08 00 9/8/98  
SD-CVC  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
4.2-A24-AK2.04 2.6 2.5 W-3-LP-OPS-PPE01 10  
W-3-LP-OPS-PPE05 2

### QUESTION

- A reactor trip occurred due to a loss of offsite power
- Three CEAs did not insert on the trip
- RCS pressure dropped to 1900 psia and is returning to normal
- EDG B automatic and manual starts failed
- The AB busses are aligned to the B train
- Charging Pump A has sequenced on EDG A and is running

Which of the following would be a successful method for performing an emergency boration to the RCS with the existing conditions?

- A. Start BAM pump B with a flow path through BAM-133, emergency boration valve from CP-4.
- B. Open BAM-113A, BAMT A gravity feed valve and close CVC-186, VCT outlet valve from CP-4.
- C. Open CVC-507, RWSP to charging pump suction isolation valve from CP-4.
- D. Start HPSI pump A from CP-8 with its suction aligned to the RWSP.

### ANSWER

A

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	COMP OR ANALYSIS	NEW	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 8  
**QUESTION ID:** 5830 - A  
**DESCRIPTION:** Reason for securing RCPs on CSAS  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/24/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/24/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** PPE **CATEGORY:** PROCEDURE  
RCP  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
TG-902-000  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
4.2-A26-AK3.03 4.2 4.2 W-3-LP-OPS-PPE01 11

### QUESTION

OP-902-000, Standard Post Trip Actions, requires securing all Reactor Coolant Pumps on a CSAS. Which of the following describes the reason for this action?

- A. To protect the RCP motors from internal damage due to water spray.
- B. To prevent running RCPs without adequate NPSH during a LOCA.
- C. To minimize inventory loss from the RCS due to LOCA conditions.
- D. To prevent damage to the RCPs due to a loss of CCW flow to the RCPs.

### ANSWER

D

### COMMENTS

Reference: TG-902-000

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	MEMORY OR FUNDAMENTAL	NEW	41.5/41.10

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 9  
**QUESTION ID:** 5764 - A  
**DESCRIPTION:** Diagnose location of a CCW leak  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 6/20/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 6/20/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** CC **CATEGORY:** PROCEDURE  
PPO SYSTEM  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
OP-901-510 03 01 11/3/99  
SD-CC  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
4.2-A26-AA2.02 2.9 3.6 W-3-LP-OPS-PPO50 1

### QUESTION

Given the following conditions:

- The plant is at 100% power
- CCW Makeup Pumps A and B auto started
- Both DCTs are bypassed and isolated
- All CCW pump suction and discharge cross-connect valves are closed
- Train A and B isolations to the AB loop are isolated
- Initially A and B train surge tank dropped and then recovered to normal and stabilized
- Both CCW Makeup Valves and the normal CCW Surge Tank Makeup valve opened and are now closed

Which of the following could cause these indications?

- A. A leak on the discharge of CCW Pump A
- B. A leak upstream of EDG B Flow Control Valve
- C. A leak on the AB Loop Return Header
- D. A leak on HPSI Pump AB Seal Cooler Return

### ANSWER

C

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	COMP OR ANALYSIS	NEW	43.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 10

**QUESTION ID:** 3476 - A

**DESCRIPTION:** DRTS ACTIVATION ON HIGH PRESSURE

**AUTHOR:** avest **REVISION** 1 **REVISION DATE** 7/11/2000

**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/11/2000

**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1

**SPECIAL REFERENCES:** NO

**PLANT SYSTEM:** ATS **CATEGORY:** SYSTEM

**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**

OP-004-021 00 01 11/2/94

SD-ATS  
SD-PPS

**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**

4.1-E29-EA1.12 4.1 4.0 W-3-LP-OPS-ATS00 3

### QUESTION

The following plant conditions exist:

- The plant is at 100% power.
- RCS pressure is 2405 psia and rising.
- No Reactor Protection System (RPS) or Diverse Reactor Trip System (DRTS) actuations have been generated
- All RPS and DRTS setpoints have been calibrated to plant design specifications

WHICH of the following results from RCS pressure continuing to rise to 2450 psia?

- A. RPS HIGH PZR pressure trip is reached; Reactor Trip Breakers open to de-energize the CEA coils.
- B. CPC HIGH PZR pressure Aux Trip is reached; MG set 480 VAC feeder breakers open to de-energize the CEA coils.
- C. DRTS HIGH PZR pressure setpoint is reached; CEDM MG set load contactors open to de-energize the CEA coils.
- D. DRTS HIGH PZR pressure setpoint is reached; Reactor Trip Breakers open to de-energize the CEA coils.

### ANSWER

C

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	COMP OR ANALYSIS	BANK	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 11  
**QUESTION ID:** 5831 - A  
**DESCRIPTION:** Bases for manually feeding the intact S/G after blowdown of the affected S/G, OP-902-004  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/24/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/24/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** PPE **CATEGORY:** PROCEDURE  
SRO LEVEL  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
TG-902-004  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
CE/E05-EK3.3 3.8 4.0 W-3-LP-OPS-PPE04 4

### QUESTION

The Excess Steam Demand Recovery Procedure, OP-902-004, requires manual initiation of EFAS and manual feed of the intact steam generator when stabilizing RCS temperature. Why is this required vice allowing automatic initiation of EFAS and feeding of the intact S/G?

- A. To ensure the intact steam generator remains a viable heat sink.
- B. To supplement heat removal in conjunction with undersized ADVs to limit the RCS heatup.
- C. To ensure uninterrupted feed to the intact S/G during cooldown.
- D. The automatic initiation logic for EFAS can not be met after blowdown of the affected S/G.

### ANSWER

B  
COMMENTS

Reference TG-902-004

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	MEMORY OR FUNDAMENTAL	NEW	41.5/41.10



## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 12

**QUESTION ID:** 5790 - A

**DESCRIPTION:** Prioritizing actions for implementation of EOPs

**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/6/2000

**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/6/2000

**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1

**SPECIAL REFERENCES:** NO

**PLANT SYSTEM:** PPE **CATEGORY:** PROCEDURE  
SRO LEVEL

REFERENCE:	REVISION:	CHANGE:	DATE:
OI-038-000	00	01	9/1/99
OP-902-004	08	00	9/9/98

NRC KA NUMBER:	RO	SRO	TRAINING MATERIAL:	OBJECTIVE
2-4-23	2.8	3.8	W-3-LP-OPS-PPE04	8

### QUESTION

The following conditions are present:

Pzr Press - 1300 psia and rising	Cntnmt press - 15.1 psia and steady
SG1 Press - 700 psia and rising slowly	SG2 Press - 50 psia and lowering
SG1 Level - 70% WR and slowly lowering	SG2 Level - 2% WR and lowering
CET Temperature - 430°F and rising	Pzr Level - 28% and rising
Loss of Offsite Power has occurred	
All ESF actuations and equipment responded as designed	

Which of the following actions has the highest priority?

- A. Isolating the affected Steam Generator
- B. Performing Reactor Coolant Pump trip strategy
- C. Stabilizing RCS temperature and pressure
- D. Verifying HPSI throttle criteria

### ANSWER

C  
COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	COMP OR ANALYSIS	NEW	41.10

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 13  
**QUESTION ID:** 2349 - A  
**DESCRIPTION:** Indications of excessive air inleakage  
**AUTHOR:** avest **REVISION** 2 **REVISION DATE** 7/25/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/25/2000  
**TYPE:** MULTIPLE CHOICE **TIME:** 1 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** AE **CATEGORY:** Procedure  
**REFERENCE: REVISION: CHANGE: DATE:**  
 OP-003-001 10 01 6/17/99  
 OP-901-220 02 02 2/15/2000  
**NRC KA NUMBER: RO SRO TRAINING MATERIAL: OBJECTIVE**  
 4.2-A51-AA2.01 2.4\* 2.7\* W-3-LP-OPS-PPO20 3

### QUESTION

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OP-901-220 "Loss of Condenser Vacuum" directs you to "Check local condenser vacuum pump air flow indications to determine if low vacuum is from excessive air in-leakage." Which of the following would be the minimum value indicative of excessive air in-leakage?

- A. 5 cfm
- B. 10 cfm
- C. 15 cfm
- D. 30 cfm

### ANSWER

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B

### COMMENTS

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Ref: OP-901-220, page 9

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	MEMORY OR FUNDAMENTAL	BANK	43.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 14  
**QUESTION ID:** 5834 - A  
**DESCRIPTION:** AMI Setpoint on a Reduced Power Condition  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/24/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/24/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** SBC **CATEGORY:** SYSTEM  
                           RXC  
**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**  
 SD-SBC  
**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**  
 4.2-A51-AA1.04      2.5\*      2.5\*      W-3-LP-OPS-SBC00      7

### QUESTION

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Reactor power cutback is aligned for service. A plant downpower from 100% power is in progress due to lowering vacuum (two of four circ water pumps tripped). At 85% power the turbine trips as a result of lowering vacuum. If two SBCS valves are out of service, at what power level should an Automatic Motion Inhibit signal be generated?

- A. 15%
- B. 33%
- C. 44%
- D. 50%

### ANSWER

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C

### COMMENTS

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	COMP OR ANALYSIS	NEW	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 15  
**QUESTION ID:** 5791 - A  
**DESCRIPTION:** Safety Function Parameters For Station Blackout  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/6/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/6/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** YES  
**PLANT SYSTEM:** PPE **CATEGORY:** PROCEDURE  
 SRO LEVEL  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-902-005 10 0 9/9/98  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 2-4-21 3.7 4.3 W-3-LP-OPS-PPE05 4

### QUESTION

Which of the following conditions would indicate a need to exit the station Blackout procedure and perform diagnostics?

- A. AB-DC Voltage is 0 Volts
- B.  $T_C$  is 550°F and stable
- C. Cntnmt Temp is 152°F, rising slowly
- D. Pzr level is 55% and lowering slowly

### ANSWER

### C COMMENTS

Supply the Safety Function Status Checklist from OP-902-005

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	Comp or Analysis	New	43.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 16  
**QUESTION ID:** 4243 - B  
**DESCRIPTION:** Failure mode for ADV on loss of SMC SUPS.  
**AUTHOR:** avest **REVISION** 2 **REVISION DATE** 7/11/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/11/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** PPO **CATEGORY:** PROCEDURE SYSTEM  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-901-312 01 03 5/24/99  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.2-A57-AK3.01 4.1 4.4 W-3-LP-OPS-PPO30 3

### QUESTION

The plant is in the following condition:

- The plant is shutdown
- RCS Cooldown is in progress using the ADVs
- Condenser vacuum has been broken to allow system repairs
- SUPS MC fails

SG 1 ADV must be operated in \_\_\_\_\_ because the ADV fails \_\_\_\_\_.

- A. local air control, closed
- B. manual (CP-8), as is
- C. manual at the ADV itself, as is
- D. local air control, open

### ANSWER

A

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	Memory or Fundamental	Bank	41.5/41.10

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 17

**QUESTION ID:** 4646 - A  
**DESCRIPTION:** Actions to control CCW temperature on loss of SUPS MB  
**AUTHOR:** avest **REVISION** 2 **REVISION DATE** 7/11/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/11/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** PPO **CATEGORY:** PROCEDURE  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-901-312 01 03 5/24/99  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.2-A57-AA1.06 3.5 3 5 W-3-LP-OPS-PPO30 3

### QUESTION

Power is lost to 120 VAC Vital Instrument Bus MB. Which actions are taken to control and monitor CCW temperature.

- A. Locally throttle ACC-126B, CCW HX B TCV. Cycle Train B DCT and WCT Fans as necessary. Monitor temperature by having I&C connect a Transmation Minitemp in CP-49.
- B. Locally trip the breaker for ACC Pump B electrically and rack out the breaker. Cycle train B DCT Fans and WCT Fans as necessary. Monitor CCW header temperature using the PMC.
- C. Place controller for ACC-126B, CCW HX B TCV in manual to control temperature. Monitor CCW header temperature locally using a hand-held digital pyrometer.
- D. Close ACC-110B, ACC Pump B Discharge Isolation Valve. Cycle Train DCT Fans and WCT Fans as necessary. Monitor CCW header temperature using the PMC.

### ANSWER

A

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	Memory or Fundamental	Bank	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 18  
**QUESTION ID:** 3986 - B  
**DESCRIPTION:** Recircing BACT's during release.  
**AUTHOR:** avest **REVISION** 2 **REVISION DATE** 7/25/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/25/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** BM **CATEGORY:** PROCEDURE  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-007-001 16 01 6/1/00  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.2-A59-AA2.04 3.2\* 3.5 W-3-LP-OPS-BM00 11

### QUESTION

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How many Boric Acid Condensate Tanks (BACTs) may be placed on recirculation while another BACT is being discharged to Circulating Water? What is the basis for this limitation?

- A. One; Boric Acid Condensate Pump A and B have separate and independent recirculation flowpaths.
- B. None; part of the release flowpath must be used to recirculate any BACT.
- C. None; prevents an inadvertent release of a BACT that has not been sampled and approved for release.
- D. None; there is only one recirculation flowpath available for the four BACTs.

### ANSWER

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C

### COMMENTS

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	Memory or Fundamental	Bank	43.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 19  
**QUESTION ID:** 5839 - A  
**DESCRIPTION:** Indications of a RCP Seal Heat Exchanger Leak into CCW  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/24/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/24/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** CC **CATEGORY:** SYSTEM  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 SD-CC  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.2-A62-AA1.05 3.1 3.1 W-3-LP-OPS-PPO40 1

### QUESTION

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- SDC trains A and B are in service
- RCS pressure is 350 psia

CCW A rad monitor begins a sharply rising trend, followed by a slowly rising trend on the AB and B radiation monitors. What is the most likely source of the rising activity in CCW?

- A. CS Pump A Seal Heat Exchanger
- B. Shutdown Cooling Heat Exchanger B
- C. CVCS Letdown Heat Exchanger
- D. Shutdown Cooling Heat Exchanger A

### ANSWER

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D

### COMMENTS

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	Comp or Analysis	New	41.7



## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 20  
**QUESTION ID:** 5836 - A  
**DESCRIPTION:** Licensed personnel restrictions for air respirators  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/24/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/24/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** PPO **CATEGORY:** ADMIN  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
W-3-LP-RRP-03  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
4.2-A67-AA1.01 3.6 3.6 W-3-LP-RRP-03 18

### QUESTION

Which of the following is correct concerning air respirators at Waterford 3?

- A. A full SCBA air cylinder is designed to last ~ 1 hr for an individual in average physical condition.
- B. When the low pressure alarm sounds on a SCBA ~ 20 minutes of air remains in the air cylinder.
- C. Licensed personnel with corrective lens restrictions are required to wear contacts or have respirator glasses available prior to relieving the shift.
- D. Fire brigade members are required to take respirator physicals every six months to remain qualified for the fire brigade positions.

### ANSWER

C  
COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	Memory or Fundamental	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 21  
**QUESTION ID:** 5840 - A  
**DESCRIPTION:** Basis for matching air pressure at regulator and transducer when taking local control of ADVs  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/25/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/25/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** MS **CATEGORY:** PROCEDURE  
 PPO  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-901-502 05 02 01/06/00  
 SD-MS  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.2-A68-AK3.06 3.9 4.3 W-3-LP-OPS-PPO51 21

### QUESTION

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The OP-901-502, Control Room Evacuation attachment for taking local control of Atmospheric Dump Valves requires adjusting the inlet air regulator to match pressure at the outlet of the transducer prior to taking local control. What is the reason for performing this step?

- A. To ensure the valve closes prior to taking local control of the valve at the local air station.
- B. To equalize pressure across the valve operating piston prior to using the manual handwheel to operate the valve.
- C. To allow alignment of Essential Air to the valve without affecting valve position.
- D. To ensure the valve does not change position when taking local control of the valve at the local air station.

### ANSWER

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D

### COMMENTS

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	Memory or Fundamental	New	41.5, 41.10

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 22  
**QUESTION ID:** 5841 - A  
**DESCRIPTION:** Affect of reducing Containment Pressure on offsite dose  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/25/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/25/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** CB **CATEGORY:** SYSTEM  
                           PPO  
**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**  
 SD-CS  
**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**  
 4.2-A69-AK1.01      2.6      3.1      W-3-LP-OPS-CS00      5

### QUESTION

Which of the following is a function of the Containment Spray System?

- A. Reduction of offsite dose by reducing the differential pressure between the containment and the external atmosphere.
- B. Reduction of offsite dose by scrubbing of noble gases from the containment atmosphere following a LOCA.
- C. Provide cooling of the safety injection sump water post-LOCA prior to a Recirculation Actuation Signal (RAS).
- D. Limits corrosion of containment components in a post-LOCA environment by use of chemical injection pumps.

### ANSWER

A

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	Memory or Fundamental	New	41.8, 41.10

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 23  
**QUESTION ID:** 5833 - A  
**DESCRIPTION:** Determining Inadequate Core Cooling Conditions using Subcooled Margin  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/24/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/24/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** YES  
**PLANT SYSTEM:** PPE **CATEGORY:** PROCEDURE  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-902-002 8 0 9/9/98  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.1-E74-EA2.01 4.6 4.9 W-3-LP-OPS-PPE02 11

### QUESTION

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OP-902-002, Loss of Coolant Accident Recovery Procedure, is being implemented. Which of the following combinations of CET temperature and PZR pressure indicate that core cooling is inadequate to support single phase natural circulation?

- A. 555°F, 1500 psia
- B. 542°F, 1200 psia
- C. 448°F, 560psia
- D. 425°F, 460 psia

### ANSWER

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B

### COMMENTS

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Supply Steam Tables

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	Comp or Analysis	New	43.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 24  
**QUESTION ID:** 4558 - A  
**DESCRIPTION:** T.S. basis for 3.4.7  
**AUTHOR:** avest **REVISION** 1 **REVISION DATE** 7/11/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/11/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** TS **CATEGORY:** PROCEDURE  
SRO LEVEL  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
TS 3.4.7 BASES  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
2-2-25 2.5 3.7 W-3-LP-OPS-RCS00 9

### QUESTION

Which of the following is the bases for reducing  $T_{ave}$  below 500 °F if RCS specific activity exceeds the limits of T.S. 3.4.7?

- A. Reducing  $T_{ave}$  ensures saturation pressure is below the lowest set pressure of S/G safeties.
- B. Reducing  $T_{ave}$  increases the adherency of the RCS corrosion film and minimizes crud bursts.
- C. Reducing  $T_{ave}$  raises the efficiency of the Letdown Ion Exchangers for removal of radioactive ions.
- D. Reducing  $T_{ave}$  contracts small fuel defects, stopping the release of fission products to the RCS.

### ANSWER

A  
COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/1	Memory or Fundamental	Bank	43.2

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 25  
**QUESTION ID:** 5799 - A  
**DESCRIPTION:** TS LCO requirements for Charging Pumps  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 7/11/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 7/11/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** CVC **CATEGORY:** PROCEDURE  
 SYSTEM  
 SRO LEVEL  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-002-005 15 00 3/21/2000  
 T.S. 3.1.2.4  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 2-1-33 3.4 4.0 W-3-LP-OPS-CVC00 7

### QUESTION

The Reactor is tripped. OP-902-001, Uncomplicated Reactor Trip Recovery, has been entered. 'AB' buses are on the 'A' side. The PNPO notices that the 'A' Charging Pump has tripped on Overcurrent. Charging pump 'AB' is running in lead. The Standby Charging Pump Selector Switch is in the 'A-B' position, and the 'AB' Assignment Switch is in the 'NORM' position.

Which of the following Actions will satisfy the LCO for the Charging Pump Tech Spec, T.S. 3.1.2.4?

- A. Take the Standby Charging Pump Selector Switch to the 'B-AB' position.
- B. Take the 'AB' Assignment Switch to the 'A' Position.
- C. Take the 'AB' Charging Pump to 'AUTO'.
- D. Take the Control Switch for the 'B' Charging Pump to 'ON'.

### ANSWER

B

### COMMENTS

REF: OP-002-005, Chemical and Volume Control. R15, C0. Page 21. Waterford SES Technical Specification 3.1.2.4, Charging Pumps – Operating.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/2	Comp or Analysis	New	43.2, 43.3

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 26  
**QUESTION ID:** 5572 - A  
**DESCRIPTION:** Determination if HPSI throttle criteria is met during a PZR STM space break.  
**AUTHOR:** bcoble **REVISION** 0 **REVISION DATE** 2/5/99  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 7/12/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** PPE **CATEGORY:** PROCEDURE  
 SRO LEVEL  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-902-002 08 00 9/9/98  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.2-A8-AK3.05 4.0 4.5 W-3-LP-OPS-PPE02 24

### QUESTION

The following conditions exist:

- The plant tripped on Low Pressurizer pressure.
- RCS Pressure is currently 1200 psia and dropping.
- 200 gpm SI flow to each cold leg loop is indicated on CP-8.
- Containment pressure and Quench Tank pressure are 25 psia and rising together.
- T-cold, T-hot, and Representative CET temperatures indicate 545 °F.
- QSPDS level 4 indicates voided on QSPDS 1 and 2
- Vessel Plenum level on CP-7 reads 60%
- SG #1 and 2 levels are 60% NR and steady

Pressurizer level has come back on scale. Pressurizer level is 45% and is rising rapidly. What action should be taken by the crew due to the rising Pressurizer level?

- A. Stop one HPSI pump and throttle flow on the other train one valve at a time.
- B. Stop Both HPSI pumps one pump at a time when Pressurizer level reaches 55.6%.
- C. Continue to allow full HPSI flow into the RCS even if PZR level reaches 100%.
- D. Restore Letdown to service and maximize Letdown flow to maintain Pzr level 33 - 60%.

### ANSWER

C

### COMMENTS

Pressurizer Safety valve is failed open, plenum level of 80% and subcooled margin of 28 degrees are not met.  
 Ref. OP-902-002 Pg. 21

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/2	Comp or Analysis	Bank	41.5, 41.10

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 27

**QUESTION ID:** 5802 - A  
**DESCRIPTION:** SDM verification during Small Break LOCA  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 7/13/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 7/13/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** PPE **CATEGORY:** PROCEDURE  
 SRO Level  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OI-038-000 00 01 9/1/99  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.1-E9-EA2.32 3.2\* 3.6\* W-3-LP-OPS-PPE02 24

### QUESTION

The plant has tripped due to a small break LOCA inside Containment. All CEAs are inserted. OP-902-002, Loss of Cooling Accident Recovery, has been entered. RCS Tavg is 545°F. SIAS and CIAS have actuated, and all plant components have operated as designed. What must be done to ensure Shutdown Margin will be maintained during the subsequent cooldown?

- A. Verify Emergency Boration occurs during the entire cooldown.
- B. Calculate SDM for  $\leq 350^\circ\text{F}$  prior to cooling down the plant  $\leq 400^\circ\text{F}$  and borate as necessary.
- C. Verify that HPSI/LPSI flow rates are in accordance with the EOP curves.
- D. Hold Tc at 350°F. Calculate SDM for  $\leq 350^\circ\text{F}$  and borate as necessary.

### ANSWER

B

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/2	Memory or Fundamental	New	43.5



## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 28  
**QUESTION ID:** 5829 - A  
**DESCRIPTION:** Mode 4 Viable Charging System Annunciators.  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 7/24/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 7/24/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** CVC **CATEGORY:** SYSTEM  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-500-007 10 02 10/8/97  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 2-4-46 3.5 3.6 W-3-LP-OPS-PP010 1

### QUESTION

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The Plant is in Mode 4. RCS pressure is 350 psia, and RCS Tave is 345°F. Charging pump 'B' is running. Which of the following Annunciators would indicate a loss of Charging Pump 'B'?

- A. VCT Level Lo-Lo.
- B. Charging Pumps Header Pressure Lo.
- C. Letdown Regen HX Outlet Temp Hi.
- D. Charging Pumps Header Flow Lo.

### ANSWER

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D

### COMMENTS

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/2	Comp or Analysis	New	43.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 29  
**QUESTION ID:** 5672 - N  
**DESCRIPTION:** Time to exceed 200 degrees after a loss of Shutdown cooling  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 6/17/99  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 7/24/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** YES  
**PLANT SYSTEM:** PPO **CATEGORY:** PROCEDURE  
 SDC  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-901-131 01 02 11/18/99  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.2-A25-AA1.12 3.6 3.5 W-3-LP-OPS-REQ21 3

### QUESTION

The plant is in Mode 5 preparing to perform refueling. Steam Generator manways are detensioned but not removed. RCS level is at midloop. The reactor was shutdown 96 hours ago. RCS temperature is 130°F. The running LPSI pump trips. Determine the time to reach Mode 4 conditions.

- A. 7 minutes
- B. 12 minutes
- C. 15 minutes
- D. 18 minutes

### ANSWER

B

### COMMENTS

Supply examinee with Attachments 2 and 3 of OP-901-131

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/2	Comp or Analysis	Bank	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 30  
**QUESTION ID:** 5814 - A  
**DESCRIPTION:** Failure of PZR BU Heaters In-surge Interlock  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 7/18/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 7/18/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** PPC **CATEGORY:** SYSTEM  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 SD-PLC  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.2-A27-AK1.03 2.6 2.9 W-3-LP-OPS-PLC00 7

### QUESTION

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During a plant transient, if the Pressurizer Backup Heaters failed to energize on a Pressurizer in-surge (assuming no subsequent outsurge immediately), what would be the effect?

- A. Pressurizer would operate outside of saturated conditions for a longer period of time.
- B. RCS Pressure would slowly lower to trip setpoint due to loss of Heater Capacity.
- C. Pressurizer heater wells and surge line would be more subject to thermal shock.
- D. More Proportional Heater current will be drawn immediately, then reduce over time.

### ANSWER

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A

### COMMENTS

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REF: System Description: Pressurizer Pressure Control (PPC) System

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/2	Comp or Analysis	New	41.8, 41.10

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 31

**QUESTION ID:** 5808 - A  
**DESCRIPTION:** Mode 6 Source Range Failure  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 7/17/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 7/17/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** NI **CATEGORY:** PROCEDURE  
 SRO Level  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 TS 3.9.2  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.2-A32-AA2.07 2.8 3.4\* W-3-LP-OPS-REQ04 2

### QUESTION

While taking the Mode 6 Tech Spec Logs it is noticed that the previous Startup Channel readings, channels 1 and 2 respectively, were 100/ 120 cps, and the current readings are 100/ 0 cps. Which of the following evolutions should be immediately stopped due to this situation?

- A. Raising RCS Boron concentration for 24 hour projected SDM.
- B. Ultrasonic Fuel Testing in the Spent Fuel Pool.
- C. Removing expended fuel from the core.
- D. Removing SDC purification from service.

### ANSWER

C

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/2	Comp or Analysis	New	43.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 32  
**QUESTION ID:** 5807 - A  
**DESCRIPTION:** Failure of HV to NI Channel 'C'.  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 7/17/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 7/17/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** NI **CATEGORY:** SYSTEM  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-500-009 05 1 8/16/99  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.2-A33-AK2.01 2.4 2.9 W-3-LP-OPS-ENI00 5

### QUESTION

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The plant is at 100%. CPC Channel 'C' LPD and DNBR trips are just received, with the annunciator "Excore Inst Channel 'C' Inoperable". Which of the following would be the likely cause of this condition?

- A. Failure of the 10E-4 Bistable for Channel 'C'.
- B. Failure of the 10E-6 Bistable for Channel 'C'.
- C. Failure of CPC Channel 'C' Power Supply.
- D. Failure of ENI Channel 'C' HV Power Supply.

### ANSWER

---

D

### COMMENTS

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/2	Memory or Fundamental	New	41.7



## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 34  
**QUESTION ID:** 5837 - A  
**DESCRIPTION:** Flow Rate Versus Pressure and Reading Flow on a SGTR.  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 7/24/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 7/24/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** YES  
**PLANT SYSTEM:** PPE **CATEGORY:** PROCEDURE  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-902-009 00 01 12/16/99  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.1-E38-EA1.24 3.6\* 3.4 W-3-LP-OPS-PPE07 8

### QUESTION

---

A S/G Tube Rupture has occurred in #2 S/G, and OP-902-007, Steam Generator Tube Rupture, has been implemented. RCS pressure is 1200 psia and steady. What is the minimum acceptable flow to each cold leg from the HPSI pumps?

- A. Approximately 16 gpm each.
- B. Approximately 32 gpm each.
- C. Approximately 48 gpm each.
- D. Approximately 64 gpm each.

### ANSWER

---

D

### COMMENTS

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Student is to be given Safety Injection Flow Curves in OP-903-009, Standard Appendices.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/2	Comp or Analysis	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 35  
**QUESTION ID:** 5810 - A  
**DESCRIPTION:** Manual Contingencies for RTO  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 7/17/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 7/17/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** FW **CATEGORY:** PROCEDURE  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-902-000 08 00 9/8/98  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.4-E6-EK3.3 3.7 3.8 W-3-LP-OPS-PPE01 10

### QUESTION

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The Reactor has tripped on Hi S/G Level in the #1 S/G due to the MFRV #1 controller failing high, fully opening #1 MFRV. After the trip MFRV #1 sticks open mechanically. Which of the following contingencies will satisfy RTO conditions for feeding #1 S/G?

- A. Take Manual Control of the #1 Master Controller and match feedrates with #2 S/G.
- B. Close the MFRV #1 Motor Isolation Valve.
- C. Trip the 'A' SGFP.
- D. Take Manual Control and Close #1 SUFRV.

### ANSWER

---

B

### COMMENTS

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/2	Comp or Analysis	New	41.5, 41.10



## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 36

**QUESTION ID:** 5817 - A  
**DESCRIPTION:** Actions on a Loss of DC to the 3AB SUPS.  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 7/19/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 7/19/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** YES  
**PLANT SYSTEM:** ID **CATEGORY:** SYSTEM  
 SRO LEVEL  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-006-005 10 00 3/12/99  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.2-A58-AA1.02 3.1\* 3.1 W-3-LP-OPS-ID00 7

### QUESTION

The Plant is in Mode 1, 100% Power. The Annunciator, 'SUPS 3AB TROUBLE' was received. The RAB Watch reports that the DC Input Breaker on SUPS 3AB has tripped. What actions should be taken in this condition?

- A. Enter TS 3.8.3.1, Onsite Power Distribution Systems, Operating. Shutdown the 3AB SUPS.
- B. Declare the AB Battery Inoperable and enter OP-901-313, Loss of a 125 Volt DC Bus.
- C. Enter TS 3.8.2.1, DC Sources. Verify proper output of the 3AB SUPS and maintain SUPS operating.
- D. Shutdown the 3AB SUPS to prevent damage to it from operating disconnected from the battery.

### ANSWER

D

### COMMENTS

Provide Tech Spec 3.8.2.1 and 3.8.3.1 to Examinees

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/2	Comp or Analysis	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 37  
**QUESTION ID:** 5820 - A  
**DESCRIPTION:** Biological Effects following Acute Exposure from Gaseous Release.  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 7/20/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 7/20/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** RAD **CATEGORY:** FUNDAMENTALS  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 CFR  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.2-A60-AK1.02 2.5 3.1\* EOI-S-LP-GET-RWT01 24

### QUESTION

A General Emergency is in progress due to an Interfacing System LOCA, with evidence of some fuel damage. An uncontrolled off-site airborne release was occurring, but was stopped by a Maintenance team. The TSC reports to the Control Room that personnel from that team received a dose of 35 rem each. Which of the following statements is TRUE concerning this amount of exposure?

- A. No blood changes and no observable effects.
- B. Slight blood changes and no other observable effects.
- C. Moderate blood changes and vomiting within 3 hours.
- D. Severe blood changes and complete loss of hair.

### ANSWER

B

### COMMENTS

REF: GET 2 Lesson Plan: EOI-S-LP-RWT01.10 (12/23/99)

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/2	Memory or Fundamental	New	41.8, 41.10

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 38  
**QUESTION ID:** 5822 - A  
**DESCRIPTION:** Actions on CROAI Alarm  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 7/21/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 7/21/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** HVC **CATEGORY:** SYSTEM  
RMS  
**REFERENCE: REVISION: CHANGE: DATE:**  
OP-901-401 00 00 4/2/93  
**NRC KA NUMBER: RO SRO TRAINING MATERIAL: OBJECTIVE**  
2-4-11 3.4 3.6 W-3-LP-OPS-PPO40 3

### QUESTION

---

CROAI 'B' South (0200.6) went into alarm and has been verified as operating properly. Which of the following actions should be taken in accordance with OP-901-401?

- A. Verify both CR Emergency Filtration Units have started.
- B. Verify CR Toilet Exhaust Fan 'B' off, and 'A' running.
- C. Verify RAB Normal Ventilation secured automatically.
- D. Verify Kitchen/Conference Room Exhaust fan off.

### ANSWER

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D

### COMMENTS

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/2	Memory or Fundamenta	New	41.10, 43.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 39

**QUESTION ID:** 5815 - A

**DESCRIPTION:** Actions to Close CS-125A on a Loss of IA with a CSAS

**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 7/19/2000

**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 7/19/2000

**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1

**SPECIAL REFERENCES:** NO

**PLANT SYSTEM:** CS **CATEGORY:** SYSTEM  
IA

REFERENCE:	REVISION:	CHANGE:	DATE:
OP-901-511	04	03	7/3/00
OP-902-008	11	00	9/9/98

NRC KA NUMBER:	RO	SRO	TRAINING MATERIAL:	OBJECTIVE
4.2-A65-AK3.04	3.0	3.2	W-3-LP-OPS-PPO50	3,6
			W-3-LP-OPS-PPE08	4

### QUESTION

A Seismic Event occurred causing a LOCA. A SIAS, CIAS, and CSAS have all actuated. The main IA Header just downstream of the IA dryers also ruptured. Containment Spray Pump 'A' started and subsequently tripped on overload. It is determined to be unavailable. Which of the following is true concerning closure of CS-125A to isolate the affected penetration?

- A. Essential Air must be aligned to CS-125A before it can be closed per the applicable EOP appendix.
- B. CS-125A can be closed using the applicable EOP appendix. Essential Air can be later aligned per OP-901-511, Loss of IA.
- C. The N2 Accumulator will provide initial motive force to operate CS-125A when closed from the CP-8 C/S.
- D. Close CS-125A using C/S on CP-8 to override CSAS. Align Essential Air per OP-901-511, Loss of IA.

### ANSWER

B

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/2	Comp or Analysis	New	41.5, 41.10

**Waterford 3 Examination Question  
Examination Bank**

**Examination Question Number** 40  
**QUESTION ID:** 5832 - A  
**DESCRIPTION:** Functional Recovery Procedure Use  
**AUTHOR:** dcassid  
**REVISION:** 0  
**REVISION DATE:** 7/24/2000  
**REFERENCE VERIFIED:** dcassid  
**VERIFICATION DATE:** 7/24/2000  
**TYPE:** Multiple Choice  
**TIME:** 5  
**POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** PPE  
**CATEGORY:** PROCEDURE  
SRO Level  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
OP-902-008 11 00 9/9/98  
OP-100-017 00 01 7/3/00  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
4.4-E9-EA2.2 3.5 4.0 W-3-LP-OPS-PPE08 9

**QUESTION**

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Which of the following statements is true concerning OP-902-008, Functional Recovery Procedure (FRP)?

- A. If multiple events are clearly identified, direct entry may be made into the FRP if the plant was initially in Mode 2.
- B. Safety Functions that do not meet the Success Path 1 criteria have the highest priority.
- C. More than one safety function may be pursued concurrently if conditions warrant.
- D. The FRP procedure may only be exited if conditions are satisfied to enter OP-010-005, Plant Shutdown.

**ANSWER**

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C

**COMMENTS**

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/2	Memory or Fundamental	New	43.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 41  
**QUESTION ID:** 3453 - A  
**DESCRIPTION:** Actions required by OP-901-110  
**AUTHOR:** avest **REVISION** 1 **REVISION DATE** 7/12/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/12/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** RR **CATEGORY:**  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-901-110 03 01 9/2/98  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.2-A28-AK3.05 3.7 4.1 W-3-LP-OPS-RR00 5

### QUESTION

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WHICH ONE (1) of the following actions should be performed by the operator if the  $T_{hot}$  input to the Reactor Regulating System (RRS) fails HIGH at 50% power?

- A. Start additional charging pumps
- B. Place Pressurizer Level controller to MANUAL
- C. Close letdown stop valve CVC-101
- D. Place Letdown Flow controller to MANUAL

### ANSWER

---

B

### COMMENTS

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/3	Comp or Analysis	Bank	41.5, 41.10

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 42  
**QUESTION ID:** 5800 - A  
**DESCRIPTION:** Expected Status of CCW Pump AB following a LOOP  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/12/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/12/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** YES  
**PLANT SYSTEM:** CC **CATEGORY:** PROCEDURE  
PPE SYSTEM  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
CWDs Supplied  
SD-CC  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
4.2-A56-AA1.09 3.3 3.3 W-3-LP-OPS-CC00 3

### QUESTION

An alignment to replace CCW pump A with CCW Pump AB is in progress due to abnormal vibration on CCW Pump A. A loss of offsite power occurs during the evolution with the following conditions:

- AB busses are aligned to train B
- CCW pump A, AB, and B were running at the time of the loss of power
- CCW AB assignment switch is selected to A
- Both sequencers have timed out
- All automatic actions occurred as expected

Predict the status of the CCW pumps.

- A. CCW pump B only is running
- B. CCW pumps A and B are running
- C. CCW pumps AB and B are running
- D. CCW pumps A, AB, and B are running

### ANSWER

A

### COMMENTS

Supply copies of CWDs 700, 705, 707, 709, 2408, 2341, 2342, 2335, 2385

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/3	Comp or Analysis	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 43  
**QUESTION ID:** 5801 - A  
**DESCRIPTION:** Interrelations between SDC and RCS leakage  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/13/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/13/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** YES  
**PLANT SYSTEM:** PPO **CATEGORY:** PROCEDURE  
 SP SYSTEM  
 SDC  
 RCS  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-901-111 01 00 10/15/97  
 G-167 & 171  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 4.4-A16-AK2.2 3.0 3.2 W-3-LP-OPS-SI00 9

### QUESTION

The plant is in Mode 4 at 325°F and 375 psia. SDC A is in standby and steps are being taken to place the train in service. The PNPO opens SI-407A, SDC A Outside Containment Isolation valve; pressurizer level starts to drop rapidly. The PNPO takes action to close SI-407A. The following conditions are observed after SI-407A is closed:

- Pzr level is 2% and recovering with 2 charging pumps operating
- Containment Sump level remained constant
- Reactor Drain Tank level remained constant
- RWSP level rose 2-3% and is now constant

Which of the following could be the cause of the RCS inventory loss?

- A. SI-406A lifts
- B. SI-408A lifts
- C. SI-417A open
- D. SI-121A open

### ANSWER

### C COMMENTS

Supply G-drawings for SI (G-167)and BM (G-171) Systems

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
1/3	Comp or Analysis	New	41.7





## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 45  
**QUESTION ID:** 5824 - A  
**DESCRIPTION:** Design features and/or interlocks that minimize leakage from RCP Seals  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/22/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/22/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** CC **CATEGORY:** SYSTEM  
RCP  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
SD-CC  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
3.4-003-K4.07 3.2 3.4 W-3-LP-OPS-CC00 3

### QUESTION

A leak has developed in a RCP seal heat exchanger to CCW. What provides isolation for this condition?

- A. The CCW Containment header is isolated on high pressure on the outlet of the heat exchanger by the containment isolation valves.
- B. The individual RCP seal heat exchanger CCW return is isolated on high pressure at the outlet of the seal heat exchanger.
- C. The individual RCP seal heat exchanger CCW return is isolated on high temperature at the outlet of the seal heat exchanger.
- D. An excess flow check valve on the outlet of the heat exchanger will seat on a high flow condition at the outlet of the heat exchanger.

### ANSWER

C

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/1	Memory or Fundamental	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 46  
**QUESTION ID:** 5803 - A  
**DESCRIPTION:** Affects of a reference leg leak on VCT level xmtr  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/13/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/13/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** CVC **CATEGORY:** SYSTEM  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 SD-CVC  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 3.1-004-K6.38 2.4 3.2 W-3-LP-OPS-CVC00 3

### QUESTION

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Wet reference leg level transmitter CVC-ILT-0227 equalizing valve is leaking by its seat and the reference and variable legs have equalized. What effect would this problem have on the operation of the CVC system?

- A. VCT Makeup starts if makeup portion of system is aligned for automatic operation.
- B. The VCT inlet valve diverts to the Holdup Tanks if the C/S is in the AUTO position.
- C. Charging pump suction automatically realigns to the Refueling Water Storage Pool.
- D. Annunciators are actuated for VCT Level Lo and VCT Level Lo-Lo on Panel CP-4.

### ANSWER

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B

### COMMENTS

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/1	Comp or Analysis	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 47  
**QUESTION ID:** 5804 - A  
**DESCRIPTION:** Letdown Isolation  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/17/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/17/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** CVC **CATEGORY:** SYSTEM  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-902-009 0.1 00 09/09/98  
 SD-CVC  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 3.1-004-A3.02 3.6 3.6 W-3-LP-OPS-CVC00 4

### QUESTION

An RCS Leak of ~ 140 gpm is in progress. The CRS orders a manual actuation of SIAS and CIAS. The PNPO performs the SIAS actuation but fails to actuate CIAS. What would be the status of CVCS isolation valves? Assume that conditions for automatic SIAS and CIAS signals have not been reached.

- A. CVC-103, Letdown Containment Isolation Inside Containment is open
- B. CVC-109, Letdown Containment Isolation Outside Containment is open
- C. RC-606, RCP Controlled Bleed-off Inside Containment Isolation is closed
- D. CVC-401, RCP Controlled Bleed-off Outside Containment Isolation is closed

### ANSWER

B  
COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/1	Comp or Analysis	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 48

**QUESTION ID:** 5805 - A

**DESCRIPTION:** Determine the ESFAS Actuated Component that failed to actuate.

**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/17/2000

**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/17/2000

**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1

**SPECIAL REFERENCES:** NO

**PLANT SYSTEM:** EFW **CATEGORY:** SYSTEM  
PPS  
MS

**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
OP-902-009 0.1 00 09/09/98  
SD-PPS  
T.S. 3.3.2

**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
3.2-013-A4.01 4.5 4.8 W-3-LP-OPS-MS00 1  
W-3-LP-OPS-MS00 3

### QUESTION

A reactor trip occurred on low SG 1 level due to a Main Feedwater Line Break inside containment. SG 1 and 2 pressures at the time of the trip were 875 psia. Currently conditions are as listed below:

- SG 1 Pressure is 750 psia, SG 2 Pressure is 800 psia
- SG1 level is 17% NR, SG 2 level is 35% NR
- Containment Pressure is 16.5 psia
- RCS Pressure is 1750 psia
- No operator action has occurred

Which of the following would indicate a component that is not in its required position?

- A. MS-401A, EFW Pump AB Turbine Steam Supply SG 1, is closed
- B. MS-120A, MS Line 1 Upstream Drain Normal Isolation, is open
- C. MS-124A, Main Steam Line 1 MSIV SG 1, is closed
- D. MS-119A, MS Line 1 Upstream Drain Bypass Isolation, is closed

### ANSWER

A

### COMMENTS

Reference: Appendix 4, OP-902-009

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/1	Comp or Analysis	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 49  
**QUESTION ID:** 5812 - A  
**DESCRIPTION:** Purpose of system limitation for resetting variable pressure trips  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/18/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/18/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** PPS **CATEGORY:** PROCEDURE SYSTEM  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-009-007 05 00 7/1/96  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 2-1-32 3.4 3.8 W-3-LP-OPS-PPS00 3

### QUESTION

What is the time delay between resets of the variable setpoint for the pressurizer pressure lo trip and what does the time delay prevent?

- A. 5 seconds; prevents lowering the setpoint more than 200 psia below process during a normal cooldown at the maximum rate of 100°F/hr.
- B. 10 seconds; prevents misuse of the feature during uncontrolled transients.
- C. 15 seconds; prevents lowering the setpoint more than 400 psia below process during a normal cooldown at the maximum rate of 100°F/hr.
- D. 30 seconds; prevents misuse of the feature during uncontrolled transients.

### ANSWER

B

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/1	Memory or Fundamental	New	41.10, 43.2

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 50  
**QUESTION ID:** 5825 - A  
**DESCRIPTION:** Predict how pulse counters will affect planar radial peaking factors  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/22/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/22/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** COL **CATEGORY:** SYSTEM  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 SD-COL  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 3.1-014-A1.04 3.5 3.8 W-3-LP-OPS-COL00 2  
 W-3-LP-OPS-COL00 4

### QUESTION

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ASI control is in progress and CEA 20 slips into the core 7" and is subsequently realigned. The pulse counter indication is not reset immediately. What affect does this have on COLSS?

- A. The Primary Calorimetric power calculation block will be inaccurate.
- B. Planar radial peaking factors applied to other calculations will be inaccurate.
- C. The Plant Power Selection block will select Secondary Calorimetric power.
- D. The Incore Detector Dynamic Compensation Block will be inaccurate.

### ANSWER

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B

### COMMENTS

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/1	Comp or Analysis	New	41.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 51  
**QUESTION ID:** 5806 - A  
**DESCRIPTION:** Affect of a loss of Control Channel NIs has on CEDMCS  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/17/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/17/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** CED **CATEGORY:** SYSTEM  
                           SBC  
                           RRS  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 SD-SBC  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 3.7-015-K3.02 3.3\* 3.5\* W-3-LP-OPS-SBC00 1, 7

### QUESTION

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The Control Channel NI detector output for the selected RRS channel failed low. How would this affect operation of the Control Element Drive Mechanism Control System?

- A. Outward motion of Regulating Group CEAs is disabled in all Modes except Manual Individual.
- B. All motion of Regulating Group CEAs is disabled except in the Manual Individual Mode.
- C. Outward motion of Regulating Group CEAs is disabled in Manual or Auto Sequential Modes.
- D. All motion of Regulating Group CEAs is disabled in the Auto Sequential Mode only.

### ANSWER

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D

### COMMENTS

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/1	Comp or Analysis	New	41.7



## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 52  
**QUESTION ID:** 5809 - A  
**DESCRIPTION:** Core Damage Assessment using CETs  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/17/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/17/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** YES  
**PLANT SYSTEM:** EP **CATEGORY:** PROCEDURE  
MCD SRO LEVEL  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
EP-002-090 06 00 10/15/97  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
3.7-017-A2.02 3.6 4.1 W-3-LP-OPS-MCD07 3

### QUESTION

A Loss of Coolant Accident is in progress. The following worst case parameters were noted:

- CET temperature - 1600°F
- RCS pressure - 1200 psia

Using Attachment 7.5 of EP-002-090, estimate the percentage of fuel rods with ruptured cladding.

- A. 15%
- B. 25%
- C. 35%
- D. 45%

### ANSWER

B

### COMMENTS

Provide Att. 7.5 of EP-002-090

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/1	Comp or Analysis	New	41.5, 43.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 53  
**QUESTION ID:** 5704 - N  
**DESCRIPTION:** Effects of containment pressure on status of CCS  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/13/99  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 8/11/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** CCS **CATEGORY:** SYSTEM  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-902-009 00 01 12/16/99  
 SD-CCS  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 3.5-022-A1.02 3.6 3.8 W-3-LP-OPS-CCS00 2

### QUESTION

The plant is operating in MODE 1 with all system alignments normal when a Main Steam leak occurs inside Containment. The following conditions are noted:

- RCS pressure = 1750 psia
- Containment Temperature = 160°F
- Containment Pressure = 17.0 psia
- All Containment Fan Coolers (CFCs) are OPERABLE
- No manual operator actions have been taken

Determine the expected status of the Containment Cooling System at this point in time.

- A. 3 of 4 CFCs running in slow speed and discharging through the safety dampers.
- B. 4 of 4 CFCs running in slow speed and discharging through the ring header.
- C. 3 of 4 CFCs running in fast speed and discharging through the ring header.
- D. 4 of 4 CFCs running in fast speed and discharging through the safety dampers.

### ANSWER

C

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/1	Comp or Analysis	Bank	41.5



## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 55  
**QUESTION ID:** 5823 - A  
**DESCRIPTION:** Annunciator Response for CD System  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/21/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/21/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** YES  
**PLANT SYSTEM:** CD **CATEGORY:** PROCEDURE  
 SYSTEM  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 CWD sht. 1376  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 2-4-31 3.3 3.4 W-3-LP-OPS-CD00 3

### QUESTION

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Condensate Pump C Trip/Trouble annunciator is locked in and the pump continues to run. Which of the following is the cause of this annunciator?

- A. Seal water flow < 1 gpm due to a seal water PCV failure
- B. The 86A1HR relay actuated due to A1 bus undervoltage
- C. The 50N ground relay actuated due to a motor ground
- D. One of three 50/51 overcurrent relays has picked up

### ANSWER

---

C

### COMMENTS

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Supply CWD sht. 1376 to examinees

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/1	Comp or Analysis	New	41.10

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 56  
**QUESTION ID:** 5821 - A  
**DESCRIPTION:** FWCS Malfunction Affects on RTO  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/20/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/20/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** NO  
**PLANT SYSTEM:** FW **CATEGORY:** SYSTEM  
 FWC  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 SD-FWC  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 3.4-059-A3.02 2.9 3.1 W-3-LP-OPS-FWC00 6

### QUESTION

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The output of the master controller for FWCS 1 became erratic and was taken to manual with an output of 60%. The level setpoint remains at 68% NR. Subsequently, a reactor trip occurs. Assuming no operator action occurs, what would be the response of the FW system?

- A. Level in SG 1 rises to the level setpoint, RTO clears, FW components go to program condition for 60% master controller output.
- B. Level in SG 1 rises to HLO setpoint of 81% NR; SUFRV 1 cycles between the HLO and RTO position around the HLO setpoint.
- C. Level in SG 1 rises, RTO does not clear, and MFIV 1 goes closed when SG 1 level reaches 96% WR.
- D. RTO is disabled, level rises rapidly in SG 1, and MFIV 1 goes closed when SG 1 level reaches 96% WR.

### ANSWER

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B

### COMMENTS

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/1	Comp or Analysis	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 57  
**QUESTION ID:** 5811 - A  
**DESCRIPTION:** Time remaining to initiate SDC  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/17/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/17/2000  
**TYPE:** Multiple Choice **TIME:** 5 **POINTS:** 1  
**SPECIAL REFERENCES:** YES  
**PLANT SYSTEM:** EFW **CATEGORY:** PROCEDURE  
 PPE  
**REFERENCE: REVISION: CHANGE: DATE:**  
 OP-902-009 00 01 12/16/99  
**NRC KA NUMBER: RO SRO TRAINING MATERIAL: OBJECTIVE**  
 3.4-061-A1.04 3.9 3.9 W-3-LP-OPS-PPE04 7

### QUESTION

A Main Steam Line Break has occurred. A cooldown is desired. The following conditions exist:

- The reactor tripped one hour ago
- Two RCPs are operating
- $T_h$  is 450°F
- Condensate Storage Pool level is 72.7%
- DWST level is 45%
- EFW is supplying the intact Steam Generator

Evaluate Condensate inventory and determine the maximum time remaining to place Shutdown Cooling in service.

- A. 7 hrs
- B. 10 hrs
- C. 14 hrs
- D. 21 hrs

### ANSWER

C

### COMMENTS

Supply Attachments 2-D through 2-G of OP-902-009

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/1	Comp or Analysis	New	41.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 58

**QUESTION ID:** 2901 - A

**DESCRIPTION:** Basis for slow EFW flow initiation following total loss of FW

**AUTHOR:** avest **REVISION** 5 **REVISION DATE** 7/12/2000

**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/12/2000

**TYPE:** Multiple Choice **TIME:** 3 **POINTS:** 1

**SPECIAL REFERENCES:** NO

**PLANT SYSTEM:** EFW **CATEGORY:** PROCEDURE  
PPE  
FW

**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
OI-038-000 00 00 09/15/98

**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
3.4-061-K3.02 4.2 4.4 W-3-LP-OPS-PPE04 5, 6  
W-3-LP-OPS-PPE07 6  
W-3-LP-OPS-PPE06 5

### QUESTION

Twenty (20) minutes after a total loss of feedwater event the following plant conditions exist:

- $T_h$  is 548 °F and rising,  $T_c$  is 546 °F and rising
- SG #1 level is 0% NR, 55% WR and lowering.
- SG #2 level is 0% NR, 57% WR and lowering.

EFW pump AB is placed in service. What should the initial flowrate be limited to and why?

- A. 50 gpm to each S/G. To minimize the thermal shock to the S/G tubes when feedwater is restored.
- B. 100 gpm flow to each S/G. To limit the RCS cool down resulting from restoration of feedwater.
- C. 150 gpm to each S/G. To limit the possibility of damaging an empty feed ring.
- D. 200 gpm to each S/G. To prevent runout of Emergency Feedwater Pump AB.

### ANSWER

C

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/1	Comp or Analysis	Bank	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number**      59  
**QUESTION ID:**      5846      A      **STATUS:**      Revision      **LAST USED**  
**DESCRIPTION:**      Effect of LOOP on battery room exhaust fans  
**AUTHOR:**      avest      **REVISION**      1      **REVISION DATE**      8/11/2000  
**REFERENCE VERIFIED:**      avest      **VERIFICATION DATE:**      8/11/2000  
**QUIZ ONLY:**      **CLOSED REFERENCE:**      X      **OPEN REFERENCE**  
**PLANT SYSTEM:**      SVS      **CATEGORY:**      SYSTEM  
**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**  
SD-SVS  
OP-003-026      07      00      12/16/99  
**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**  
3.6-063-K1.04      2.2      2.7      W-3-LP-OPS-SVS00      2

### QUESTION

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Battery A Battery Room Exhaust Fan B is currently running when the 3A to 2A tie breaker trips and EDG A starts and loads. Determine the final status of Battery A Battery Room Exhaust Fans.

- A. Both A and B fans are running.
- B. Only the A fan is running
- C. Only the B fan is running
- D. Neither the A nor B fan is running

### ANSWER

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A  
**COMMENTS**

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Ref. OP-003-026 Rev. 7, Chg 0 Pg. 13

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/1	Comp or Analysis	New	41.2 to 41.9



## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 60

**QUESTION ID:** 5813      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** Action to be taken if minimum dilution flow is not met during a release

**AUTHOR:** avest      **REVISION** 0      **REVISION DATE** 7/18/2000

**REFERENCE VERIFIED:** avest      **VERIFICATION DATE:** 7/18/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** BM      **CATEGORY:** PROCEDURE  
SRO Level

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

SD – Circ Water

CE-003-512      0      2      1-17-00

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

3.9-068-A4.02      3.2\*      3.1\*      W-3-LP-OPS-BM00      8

### QUESTION

The plant is in Mode 3 with RCS temperature being controlled by MS-319A, Main Steam Bypass 1A. Steam Generators are being fed with the Auxiliary Feedwater Pump. Boric Acid Condensate Tank B is being discharged to Circ Water. Circ Water Pumps A, B, & C are running. The SUT A feeder to the A1 bus trips open. Which of the following actions should be performed?

- A. Verify MS-319A, Main Steam Bypass 1A, shuts if vacuum drops to 14 inhg.
- B. Immediately throttle both Atmospheric Dump Valves to 50% open.
- C. Immediately secure the Boric Acid Condensate Tank release in progress.
- D. Start an EFW pump to feed steam generators due to loss of feedwater.

### ANSWER

C

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/1	Comp or Analysis	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 61  
**QUESTION ID:** 5827      **A**      **STATUS:** Draft      **LAST USED**  
**DESCRIPTION:** Waste Gas Analyzer sample points  
**AUTHOR:** avest      **REVISION** 0      **REVISION DATE** 7/22/2000  
**REFERENCE VERIFIED:** avest      **VERIFICATION DATE:** 7/22/2000  
**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**  
**PLANT SYSTEM:** GWM      **CATEGORY:** SYSTEM  
**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**  
SD - PSL  
**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**  
3.9-071-K5.05      2.1      2.7      W-3-LP-OPS-PSL00      5

### QUESTION

The Explosive Gas Monitor required by Technical Specification 3.3.3.11 is capable of sampling from which of the following points:

- A. Waste Condensate Tanks gas space
- B. Waste Storage Tank gas space
- C. Boric Acid Condensate Tanks gas space
- D. Volume Control Tank gas space

### ANSWER

D  
COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/1	Memory or Fundamental	New	41.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 62  
**QUESTION ID:** 5828      **A**      **STATUS:** Draft      **LAST USED**  
**DESCRIPTION:** Logic for Fuel Handling Building Isolation Signal Train A  
**AUTHOR:** avest      **REVISION** 0      **REVISION DATE** 7/24/2000  
**REFERENCE VERIFIED:** avest      **VERIFICATION DATE:** 7/24/2000  
**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**  
**PLANT SYSTEM:** RMS      **CATEGORY:** SYSTEM  
**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**  
SD - HVF  
**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**  
3.7-072-K4.02      3.2\*      3.4\*      W-3-LP-OPS-HVF00      1

### QUESTION

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What logic is required to automatically start FHB Emergency Filtration Unit A?

- A. 1 of 2 Train A Radiation Monitors in high alarm state
- B. 2 of 2 Train A Radiation Monitors in high alarm state
- C. Any 1 of 4 Train A or B Radiation Monitors in high alarm state
- D. Any 2 of 4 Train A or B Radiation Monitors in high alarm state

### ANSWER

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A

### COMMENTS

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/1	Memory or Fundamental	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 63

**QUESTION ID:** 5778      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** Prioritization of alarms following a plant trip (LOCA)

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 6/21/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 6/21/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** RCS      **CATEGORY:** PROCEDURE  
SRO LEVEL

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

OP-902-000      08      00      9/8/98

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

2-4-45      3.3      3.6      W-3-LP-OPS-PPE01      10

### QUESTION

The plant was tripped due to a LOCA inside Containment. Reactor Power is 1.3E-6% and lowering. Primary Pressure is 1335 psia and steady. Tavg is 534°F and slowly lowering. The following ESFAS signals have occurred, and all associated components are operating as required: SIAS, CIAS, MSIS, EFAS-1, and EFAS-2. RCPs 1B and 2B are running. While verifying Standard Post Trip Actions several Control Room Annunciators alarm. Which of the following alarms should be addressed first?

- A. QUENCH TANK TEMPERATURE HI (CP-2)
- B. CSAS TRAIN A(B) LOGIC INITIATED (CP-2)
- C. RAD MONITORING SYS ACTIVITY HI-HI (CP-36)
- D. RCP CONTL BLEEDOFF PRESSURE HI (CP-4)

### ANSWER

B

### COMMENTS

REF: OP-902-000, Standard Post Trip Actions. R8 C0. Page 14.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/2	Comp or Analysis	New	43.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 64

**QUESTION ID:** 5784      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** Closing a SIT outlet valve with RCS pressure > 415 psia.

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 6/22/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 6/22/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** SI      **CATEGORY:** SYSTEM

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

OP-009-008      15      02      3/1/2000

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

3.2-006-A1.04      2.2      2.5      W-3-LP-OPS-SI00      4

### QUESTION

The plant is at 100% power. Due to a leak on the outlet of SIT 2A, between the outlet check valve and the outlet isolation valve, closure of SIT 2A Isolation Valve, SI-332A, is desired. As CRS, what actions do you order the shift to perform to close SI-332A?

- A. Verify the breaker open for SI-332A, and send an NAO to close SI-332A manually.
- B. Close the breaker for SI-332A. Take the SI-332A control switch to PRESS OVRD.
- C. Take the SI-332A control switch from OPEN to CLOSE and then to PRESS OVRD.
- D. Close the breaker for SI-332A. Take the SI-332A control switch to CLOSE.

### ANSWER

B

### COMMENTS

REF: System Description, Safety Injection. Rev 4. Page 27-28

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/2	Comp or Analysis	New	41.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 65

**QUESTION ID:** 5779      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** PPC relationship with Lo Level Heater Cutout Switch

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 6/21/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 6/21/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** PPC      **CATEGORY:** SYSTEM

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

OP-901-120      02      02      2/23/2000

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

3.3-010-K4.02      3.0      3.4      W-3-LP-OPS-PLC00      6  
W-3-LP-OPS-PPO10      3

### QUESTION

- The Plant is in Mode 3
- RCS Tavg = 545°F
- RCS Pressure = 2225psia.
- Pressurizer Level = 33% and stable

I&C is calibrating 'Pressurizer Pressure Control Channel X'. The Pressurizer Pressure Channel Selector control switch has been re-positioned to Channel Y. The PNPO notices a slowly dropping trend on actual RCS pressure, and the Pressurizer Pressure recorder channel X has been pegged high since starting the calibration. Which of the following is the cause of the RCS pressure drop.

- A. Pressurizer Spray valves opened in response to the failed high Pressurizer Pressure control channel.
- B. I&C Technicians are working on the wrong Pressurizer Pressure Loop.
- C. The Pressurizer Low Level Heater Cutout Switch was not re-positioned to the Channel Y position.
- D. Proportional Heater Banks have tripped due to low Pressurizer level.

### ANSWER

C

### COMMENTS

REF: OP-901-120, Pressurizer Pressure Control Malfunction. R2 C2. Page 7.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/2	Comp or Analysis	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 66

**QUESTION ID:** 5792      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** PLCS - Channel Failure Indications.

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 7/11/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 7/11/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** PLC      **CATEGORY:** SYSTEM

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

SD-PLC-01

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

3.2-011-A2.03      3.8      3.9      W-3-LP-OPS-PLC00      1

W-3-LP-OPS-PP010      1

### QUESTION

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The Plant is at 100%. The Pressurizer Level Control System (PLCS) selected control channel is 'X'. What is the expected response of the CVC system if PLCS Channel X fails low?

- A. Pzr Level Instrument Channel X reads '0%', Channel 'Y' reads '56%', minimum letdown flow, and all Charging Pumps are running.
- B. Both Pzr Level Channels read '56%', all Charging Pumps are running, and Letdown flow is at zero.
- C. Pzr Level Channel X reads '0%', Channel 'Y' reads '56%', Letdown flow is normal, and first backup Charging Pumps has started.
- D. Both Pzr Level Channels read '0%', Letdown flow is max, and 1 Charging Pump is running.

### ANSWER

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A.

### COMMENTS

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REF: SD – PLCS: SDPLC-01

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/2	Comp or Analysis	New	41.5, 43.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 67

**QUESTION ID:** 5786 A **STATUS:** Draft **LAST USED**  
**DESCRIPTION:** Effect of PPS bistable on RPS and ESFAS  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 6/22/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 6/22/2000  
**QUIZ ONLY:** **CLOSED REFERENCE:** X **OPEN REFERENCE**  
**PLANT SYSTEM:** PPS **CATEGORY:** SRO LEVEL SYSTEM  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-009-007 05 00 7/1/96  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 3.7-012-K3.04 3.8\* 4.1\* W-3-LP-OPS-PPS00 4

### QUESTION

The Plant is at 100% power. The CP-10 Bypass pushbutton for PPS Channel A 'Lo PZR Press' fails to the bypass function, giving you the Bistable Bypass alarm on CP-2 and the BYPASS lamp on CP-7. Which of the following describes the effect on the Plant Protection System?

- A. Channel 'A' Lo Pressurizer Pressure Trip and Lo Pressurizer Pressure input to SIAS and CIAS are inoperable.
- B. Channel 'A' Lo Pressurizer Pressure input to SIAS and CIAS is inoperable.
- C. Channel 'A' Lo Pressurizer Pressure Trip and pressure inputs to SIAS, CIAS, and MSIS are inoperable.
- D. Channel 'A' pressure inputs to SIAS, CIAS, and MSIS are inoperable.

### ANSWER

A

### COMMENTS

REF: SD-PPS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/2	Comp or Analysis	New	41.7



## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 68

**QUESTION ID:** 5793      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** RRS - Tavg Failure results.

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 7/11/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 7/11/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** RR      **CATEGORY:** SYSTEM

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

SD-RRS-01

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

3.7-016-A3.02      2.9\*      2.9\*      W-3-LP-OPS-RR00      13  
W-3-LP-OPS-RR00      2

### QUESTION

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The Plant is at 100%. The Tavg Calculator of the in-service RRS fails low. Which of the following is expected as a direct result of this occurrence?

- A. Both backup Charging pumps Auto-start.
- B. CEDMCS 'Insert CEA' command from the RRS.
- C. SBCS Quick Open Block of Valves #1-5 on Reactor Trip.
- D. AWP generated to CEDMCS and Annunciator is received.

### ANSWER

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C

### COMMENTS

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SD: RRS: Pages 21-22.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/2	Comp or Analysis	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 69

**QUESTION ID:** 5789      **A**      **STATUS:** Draft      **LAST USED**  
**DESCRIPTION:** Reducing Containment Airborne Activity with a locked in CPIS.  
**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 6/28/2000  
**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 6/28/2000  
**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**  
**PLANT SYSTEM:** ARR      **CATEGORY:** SYSTEM  
**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**  
OP-901-403      01      00      10/29/97  
**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**  
3.5-027-K5.01      3.1\*      3.4\*      W-3-LP-OPS-PPO40      6

### QUESTION

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The plant is Mode 6. A fuel accident has occurred inside of Containment which has generated a Containment Purge Isolation Signal (CPIS). What can the CRS direct to help reduce the levels of airborne radionuclides inside of Containment?

- A. Restart Containment Purge.
- B. Start up available ARRS units.
- C. Start up a CARS and a SBV train.
- D. Align CARS for Containment Pressure Control.

### ANSWER

---

B.

### COMMENTS

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REF: OP-901-403, High Airborne Activity in Containment. R1 C0. Page 8.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/2	Memory or Fundamental	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 70

**QUESTION ID:** 5788      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** Starting CAR System Post-LOCA

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 6/27/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 6/27/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** CAR      **CATEGORY:** SYSTEM

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

SD-SBV-01

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

3.5-028-K1.01      2.5\*      2.5      W-3-LP-OPS-SBV00      5

### QUESTION

The Plant is in Mode 5, 36 hours Post-LOCA. An SIAS and CIAS had actuated, and Containment pressure is 15.1 psia and lowering. It is desired to run the Containment Atmosphere Release (CAR) system, to help remove H2 from inside Containment once Containment pressure has lowered sufficiently to prevent damage to the CAR system supply fan. Which of the following will allow running of the CAR system?

- A. Secure Shield Building Ventillation.
- B. Reset the SIAS signal.
- C. Start the Annulus Negative Pressure system.
- D. Reset the CIAS signal.

### ANSWER

D.

### COMMENTS

REF: SD – Shield Building Ventilation

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/2	Comp or Analysis	New	41.9

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 71  
**QUESTION ID:** 5794      **A**      **STATUS:** Draft      **LAST USED**  
**DESCRIPTION:** Rad Monitor Power Supplies  
**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 7/11/2000  
**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 7/11/2000  
**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**  
**PLANT SYSTEM:** RMS      **CATEGORY:** SYSTEM  
**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**  
 SD-RMS-01  
**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**  
 3.8-029-K2.03      2.3\*      2.7      W-3-LP-OPS-RMS00      3

### QUESTION

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Which of the following Rad Monitors is powered from Safety LVD PDP-360-SA on MCC-312A?

- A. PRM-IR-6777, Containment Sump
- B. PRM-IR-0100.1S, Plant Stack PIG 'A'.
- C. ARM-IR-5001, Control Room ARM.
- D. PRM-IR-6710C, RAB HVAC 'D'

### ANSWER

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B.

### COMMENTS

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REF: SD RMS: Table 6 – Power Supplies

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/2	Memory or Fundamental	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 72  
**QUESTION ID:** 5780 A **STATUS:** Draft **LAST USED**  
**DESCRIPTION:** Closure of CC-620  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 6/21/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 6/21/2000  
**QUIZ ONLY:** **CLOSED REFERENCE:** X **OPEN REFERENCE**  
**PLANT SYSTEM:** CC **CATEGORY:** SYSTEM  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 SD-CCW-01  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 3.8-033-A4.02 2.4 2.8 W-3-LP-OPS-CC00 3

### QUESTION

All of the following cause closure of CC-620, Fuel Pool Heat Exchanger Temperature Control Valve **EXCEPT**

- A. Fuel Handling Building Isolation Signal
- B. Safety Injection Actuation Signal
- C. Closure of the B To AB Hdr Isol Valves, CC-563/200B
- D. Loss of Instrument Air

### ANSWER

A

### COMMENTS

REF: SD for CCW System. R4. Page 31-32.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/2	Memory or Fundamental	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 73

**QUESTION ID:** 5797      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** Center Voltage affect on ARM reading.

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 7/11/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 7/11/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** RMS      **CATEGORY:** SYSTEM

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

SD-RMS-01

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

3.8-034-K6.02      2.6      3.3      W-3-LP-OPS-RMS00      1

### QUESTION

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If the detector high voltage of a Fuel Handling Building Isolation ARM lowers significantly, how will this affect the reading of the ARM, and how will it affect actuation of a Fuel Handling Building Isolation Signal (Fuel Handling Accident)?

- A. The monitor would read a higher than actual area radiation level, and the actuation would occur at a higher actual area radiation level
- B. The monitor would read lower than actual area radiation level, and actuation would occur at a higher actual area radiation level.
- C. The monitor would read and actuate at normal radiation levels, but would be operating in a lower region of the Six Region Detector Curve.
- D. The monitor would read normal area radiation levels, but the actuation would occur at a higher actual area radiation level.

### ANSWER

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B

### COMMENTS

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REF: Rad Monitoring System SD: Appendix 1:Radiation Principles.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/2	Comp or Analysis	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 74  
**QUESTION ID:** 5847 A **STATUS:** Draft **LAST USED**  
**DESCRIPTION:** TS Basis for Maintaining 2 Operable ECCS trains when RCS is greater than or equal to 500 Degrees  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 8/12/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 8/12/2000  
**QUIZ ONLY:** **CLOSED REFERENCE:** X **OPEN REFERENCE**  
**PLANT SYSTEM:** SI **CATEGORY:** SYSTEM  
 SRO Level  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 TS BASES  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 3.4-035-K3.02 4.0 4.3 W-3-LP-OPS-SI00 7

### QUESTION

In Mode 3, when RCS average temperature is greater than or equal to 500°F, Technical Specifications require maintaining 2 independent ECCS subsystems operable. What is the basis of the 500°F limit?

- A. Enhance natural circulation by helping to maintain Saturation Margin when RCS temperature is  $\geq 500^\circ\text{F}$ .
- B. Provide enough RCS cooling to help prevent exceeding Containment pressure limits on a LOCA.
- C. Provide enough borated water to prevent the core from becoming critical during a MSLB from  $\geq 500^\circ\text{F}$ .
- D. Provide enough inventory makeup to keep the fuel covered during higher levels of decay heat.

### ANSWER

C.

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/2	Memory or Fundamental	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 75

**QUESTION ID:** 5795      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** EFW 'AB' Overspeed Reset Actions

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 7/11/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 7/11/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** EFW      **CATEGORY:** SYSTEM  
MS

REFERENCE:	REVISION:	CHANGE:	DATE:
OP-902-005	10	00	9/9/98

NRC KA NUMBER:	RO	SRO	TRAINING MATERIAL:	OBJECTIVE
3.4-039-A4.04	3.8	3.9	W-3-LP-OPS-PPE05	2

### QUESTION

The Plant has tripped and is experiencing a Station Blackout. OP-902-005, Station Blackout Recovery, has been implemented. EFAS-1 and EFAS-2 have been received. A fire has occurred and subsequently extinguished in the 'A' Safety Battery Room, resulting in the opening of it's output disconnect. After inspecting the 'AB' EFW pump, the RCA watch reports that it appears to have tripped on overspeed. What actions are necessary to reset the 'AB' EFW pump turbine?

- A. NPO closes MS-401B at CP-8. RCA must MS-401A locally. NPO directs the RCA watch to reset the 'AB' EFW Pump turbine Mechanical Overspeed.
- B. NPO closes MS-401A and MS-401B at CP-8, and directs the RCA watch to reset the 'AB' EFW pump turbine per the appropriate EOP steps.
- C. NPO directs the RCA watch to verify all personnel are clear, and to reset the 'AB' EFW Pump turbine Mechanical Overspeed.
- D. NPO closes MS-401B at CP-8. RCA must close MS-401A locally. NPO directs the RCA watch to reset the 'AB' EFW pump turbine per the appropriate EOP steps.

### ANSWER

B.

### COMMENTS

REF: OP-902-005, Station Blackout Recovery. R10 C0. Page 10.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/2	Comp or Analysis	New	41.7



## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 76

**QUESTION ID:** 5849      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** Appendix R requirements for Essential Chiller B

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 8/15/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 8/15/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** ADM      **CATEGORY:** ADMIN  
CHW      PROCEDURE

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

OP-002-004      11      01      4/14/99

TRM

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

3.6-062-A2.11      3.7      4.1      W-3-LP-OPS-CHW00      5  
W-3-LP-OPS-CHW00      9

### QUESTION

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The Plant is at 100%. The 'AB' Chiller has just been aligned to replace the 'B' Chiller, started, and declared operable. The 'A' Chiller is already running. Which of the following is true concerning this Chiller alignment?

- A. If the 'B' Chiller is not re-aligned and declared operable within the next 7 days, the plant must shut down.
- B. The 'AB' Chiller satisfies the Appendix R requirements for the Technical Requirements Manual.
- C. The 'B' chilled water loop must be declared inoperable after 3 days if the 'B' Chiller is inoperable.
- D. The 'AB' Chiller can replace the 'B' Chiller indefinitely, but a special report must be submitted to the NRC after 30 days.

### ANSWER

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A.

### COMMENTS

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/2	Comp or Analysis	New	41.5, 43.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 77

**QUESTION ID:** 1655      **A**      **STATUS:** Approved      **LAST USED**  
**DESCRIPTION:** One cranking air valve closed, how does this effect starting EDG  
**AUTHOR:** tmccool      **REVISION** 1      **REVISION DATE** 8/15/94  
**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 8/11/2000  
**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE** X  
**PLANT SYSTEM:** EDG      **CATEGORY:** SYSTEM  
**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**  
OP-009-002      17      05      12/15/99  
**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**  
3.6-064-K1.05      3.4      3.9      W-3-LP-OPS-EDG00      01

### QUESTION

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During performance of Train B Emergency Diesel Generator (EDG) Standby Valve Lineup the Operators inadvertently left the Right Bank Cranking Control Air Shutoff Valve (EGA-301B), in OFF(CLOSED). How does this affect start up of the Train B EDG?

- A. Both Air Start Receivers will supply air to all cylinders to start the Train B EDG.
- B. The Left Bank Air Start Receiver will supply air to all cylinders to start the Train B EDG.
- C. The Left Bank Air Start Receiver will supply air only to the Left Side cylinders to start the Train B EDG.
- D. The Right Bank Air Start Receiver will supply air to all cylinders to start the Train B EDG.

### ANSWER

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B

### COMMENTS

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/2	Comp or Analysis	Bank	41.2 to 41.9

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 78

**QUESTION ID:** 5796      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** POST-CIAS invalid RMS information.

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 7/11/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 7/11/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** RMS      **CATEGORY:** SYSTEM

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

SD-RMS-01

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

3.7-073-A4.02      3.7      3.7      W-3-LP-OPS-RMS00      2

### QUESTION

---

A medium-break LOCA has occurred. Containment pressure is 22.9 psia and slowly rising. All ESFAS actuations have occurred as designed. Which of the following Rad Monitors provides unreliable information under these conditions?

- A. Containment PIG Monitor.
- B. Plant Stack WRGM.
- C. Containment Purge Monitors.
- D. CCW System Liquid Monitors A & B.

### ANSWER

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A.

### COMMENTS

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SD: Rad Monitoring System: Page 11.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/2	Comp or Analysis	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 79

**QUESTION ID:** 5787      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** HazMat Safety and Fire Fighting

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 6/27/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 6/27/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** GEN      **CATEGORY:** SRO LEVEL

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

UNT-007-049      05      00      11/20/95

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

3.8-086-K5.04      2.9      3.5\*      W-3-LP-OPS-HZT00      5

### QUESTION

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WHICH fire, presents a significant health hazard to the fire team even after it has been extinguished?

- A. Electrical fire in the RAB Water Heater. Heater is de-energized.
- B. Paper Recycling Bin on the MSB first floor. Contents have been removed and overhauled.
- C. Neutral Grounding Transformer Dielectric. Transformer is de-energized.
- D. Oily Lagging fire on a SGFP discharge line. Lagging has been removed and overhauled.

### ANSWER

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C.

### COMMENTS

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REF: UNT-007-049

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/2	Memory or Fundamental	New	41.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 80

**QUESTION ID:** 5819 A **STATUS:** Draft **LAST USED**

**DESCRIPTION:** Affect of a malfunction of SI-129A during reduced inventory conditions in the RCS

**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/20/2000

**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/20/2000

**QUIZ ONLY:** **CLOSED REFERENCE:** X **OPEN REFERENCE**

**PLANT SYSTEM:** SDC **CATEGORY:**

**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**

OP-001-003

**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**

3.4-005-K6.11 2.3 2.7\* W-3-LP-OPS-REQ13 1

### QUESTION

- RCS temperature is 120°F and stable
- Shutdown Cooling A is in service
- RWLIS and RCSLMS indicate 13.4 ft
- All applicable actions of OP-001-003, RCS Drain Down have been completed

How would a loss of power to SI-129A, Shutdown Cooling Flow Control Valve, affect the RCS or SDC systems?

- A. An RCS cooldown commences
- B. An RCS heatup commences
- C. LPSI Pump A cavitates due to excessive vortexing
- D. LPSI Pump A experiences runout flow conditions

### ANSWER

B

### COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/3	Comp or Analysis	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 81

**QUESTION ID:** 5818      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** Evaluate CCW pump operability using IST data

**AUTHOR:** avest      **REVISION** 0      **REVISION DATE** 7/20/2000

**REFERENCE VERIFIED:** avest      **VERIFICATION DATE:** 7/20/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** CC      **CATEGORY:** SRO Level  
PPA

<b>REFERENCE:</b>	<b>REVISION:</b>	<b>CHANGE:</b>	<b>DATE:</b>
UNT-006-021	03	01	12/11/97
OP-903-050	16	03	4/17/2000

<b>NRC KA NUMBER:</b>	<b>RO</b>	<b>SRO</b>	<b>TRAINING MATERIAL:</b>	<b>OBJECTIVE</b>
3.8-008-A3.06	2.5	2.5	W-3-LP-OPS-IST00	5, 6

The pump operability test is in progress for CCW Pump A. The following data was obtained:

- Header Flow = 4760 GPM
- Inboard Vibration - 3V = 0.199 in/sec, 3H = 0.311
- Outboard Vibration - 4V = 0.110, 4H = 0.207, 4A = 0.153
- Discharge Pressure = 99.7 psig
- Suction Pressure = 32.2 psig

Evaluate the operability of CCW pump A and any actions required.

- A. Operable; there is no further action required.
- B. Operable, trend alert range parameters daily.
- C. Operable, double pump surveillance frequency.
- D. Inoperable, enter T.S. 3.7.3 and cascading T.S.

**ANSWER**

**C**

**COMMENTS**

Supply a copy of OP-903-050 with acceptable, alert, and required action values filled in. The values filled in for Inboard Vibration 3H should be such that given vibration is in the Alert range.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/3	Comp or Analysis	New	41.7

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 82  
**QUESTION ID:** 2709      **A**      **STATUS:** Approved      **LAST USED**  
**DESCRIPTION:** Use of WCT Basins as emergency makeup.  
**AUTHOR:** whardin      **REVISION** 1      **REVISION DATE** 8/18/94  
**REFERENCE VERIFIED:** whardin      **VERIFICATION DATE:** 8/18/94  
**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE** X  
**PLANT SYSTEM:** ACC      **CATEGORY:** System  
**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**  
 SD - CC  
**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**  
 3.4-076-K1.20      3.4\*      3.4\*      W-3-LP-OPS-CC00      3

### QUESTION

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The Wet Cooling Tower Basins can be used to provide emergency makeup to which one of the following systems?

- A. Condensate system (hotwell makeup)
- B. Potable Water system
- C. Fuel Pool Cooling and Purification system
- D. Emergency Feedwater system

### ANSWER

---

D

### COMMENTS

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Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/3	Memory or Fundamental	Bank	41.2 to 41.9

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 83  
**QUESTION ID:** 5816 A **STATUS:** Draft **LAST USED**  
**DESCRIPTION:** Actions required for lowering IA pressure  
**AUTHOR:** avest **REVISION** 0 **REVISION DATE** 7/19/2000  
**REFERENCE VERIFIED:** avest **VERIFICATION DATE:** 7/19/2000  
**QUIZ ONLY:** **CLOSED REFERENCE:** X **OPEN REFERENCE**  
**PLANT SYSTEM:** IA **CATEGORY:** PROCEDURE  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-901-511 04 03 7/3/00  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 3.8-078-A4.01 3.1 3.1 W-3-LP-OPS-PPO50 3

### QUESTION

An Instrument Air leak has occurred in the Turbine Building. The CRS notes that instrument air receiver pressure has dropped to 60 psig on CP-1 and the PMC. What course of action should the CRS order?

- A. Align Essential Air nitrogen banks 1, 2, 3, and 4 to their associated Instrument Air valves.
- B. Commence a plant shutdown in accordance with OP-010-005, Plant Shutdown.
- C. Commence a plant shutdown in accordance with OP-901-212, Rapid Plant Power Reduction.
- D. Perform a manual reactor trip and go to OP-902-000, Standard Post Trip Actions.

### ANSWER

D  
COMMENTS

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
2/3	Memory or Fundamental	New	41.7



## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 84  
**QUESTION ID:** 5759 A **STATUS:** Draft **LAST USED**  
**DESCRIPTION:** Waterford 3 Safety Limits  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 6/20/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 6/20/2000  
**QUIZ ONLY:** **CLOSED REFERENCE:** X **OPEN REFERENCE**  
**PLANT SYSTEM:** RCS **CATEGORY:** PROCEDURE  
 SRO LEVEL  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 TS 2.1.1  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 2-1-10 2.7 3.9 W-3-LP-OPS-TS00 2  
 W-3-LP-OPS-TS03 10

### QUESTION

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The plant tripped on low DNBR. Actual DNBR dropped to 1.24 during the event. What is the minimum level of permission required to resume critical operations of the unit?

- A. Shift Manager
- B. Operations Manager
- C. General Manager Plant Operations
- D. Nuclear Regulatory Commission

### ANSWER

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D

### COMMENTS

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REF: Waterford 3 Technical Specification, TS section 2: Safety Limits and Limiting Safety System Settings. Page 2-1. TS section 6.0, Administrative Controls. T.S. 6.7.1.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
3	Comp or Analysis	New	43.51

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 85  
**QUESTION ID:** 5760 A **STATUS:** Draft **LAST USED**  
**DESCRIPTION:** Lowering ESFAS Setpoints  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 6/20/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 6/20/2000  
**QUIZ ONLY:** **CLOSED REFERENCE:** X **OPEN REFERENCE**  
**PLANT SYSTEM:** PPS **CATEGORY:** PROCEDURE  
 SRO LEVEL  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-100-001 17 02 7/13/00  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 2-1-23 3.9 4.0 w-3-lp-ops-ppa00 2

### QUESTION

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The CRS may direct ESFAS Setpoints to be lowered during the performance of the following plant evolutions, with the EXCEPTION of:

- A. A rapid plant cooldown to < 520 °F during a SGTR.
- B. A normal plant cooldown to a lower operating mode.
- C. A Main Feed Line Break downstream of the MFIV when the affected Steam Generator is blowing down.
- D. An RCS depressurization to within 50 psi of the affected Steam Generator pressure during a SGTR.

### ANSWER

---

C

### COMMENTS

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REF: OP-100-001, Duties and Responsibilities of Operators on Duty. R0 C2. Page 46.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
3	Comp or Analysis	New	

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 86

**QUESTION ID:** 5761 A **STATUS:** Draft **LAST USED**  
**DESCRIPTION:** Actions on a Bottomed Out Reach Rod Valve Indicator  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 6/20/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 6/20/2000  
**QUIZ ONLY:** **CLOSED REFERENCE:** X **OPEN REFERENCE**  
**PLANT SYSTEM:** VLV **CATEGORY:** PROCEDURE  
 SRO LEVEL  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-100-009 15 05 4/24/2000  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 2-1-29 3.4 3.3 w-3-lp-ops-ppa00 2

### QUESTION

While positioning closed a remotely operated manual valve (reach rod), the NAO observes that the valve ‘feels’ closed, and the valve position indicator pin is bottomed out. Alternate valve position was performed satisfactorily. During follow-up actions on your shift, which of the below tasks is **NOT** required per OP-100-009, Control of Valves and Breakers?

- A. Issue an EOS against the reach rod operator.
- B. Generate An MAI for the reach rod indicator.
- C. Issue Caution Tags for the affected valve.
- D. Submit a Work Around for valve position verification.

### ANSWER

A

### COMMENTS

REF: OP-100-009, “Control of Valves and Breakers. R15 C4. Page 18.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
3	Memory or Fundamental	New	41.10

## Waterford 3 Examination Question Examination Bank

**Examination Question Number**      87

**QUESTION ID:**      5762      A      **STATUS:**      Draft      **LAST USED**

**DESCRIPTION:**      Determining cause of a failure of Start-up Channel Indication in Mode 4.

**AUTHOR:**      dcassid      **REVISION**      0      **REVISION DATE**      6/20/2000

**REFERENCE VERIFIED:**      dcassid      **VERIFICATION DATE:**      6/20/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:**      X      **OPEN REFERENCE**

**PLANT SYSTEM:**      ENI      **CATEGORY:**      PROCEDURE  
SYSTEM

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

OP-903-102      09      07      1/30/2000

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

2-1-31      4.2      3.9      W-3-LP-OPS-ENI00      2  
W-3-LP-OPS-ENI00      5

### QUESTION

The plant is in Mode 4. The SNPO is performing OP-903-102, Safety Channel Nuclear Instrumentation Functional Test, on Channel 'B'. The PNPO notes that Startup Channel 2 has de-energized. What is the cause of Startup Channel 2 de-energizing?

- A. The SNPO failed to place Startup High Voltage Control switch to Primary.
- B. The SNPO failed to place Startup High Voltage Control switch to Alternate.
- C. The SNPO is performing a normal test of the  $10^{-4}$  % bistable functions.
- D. The SNPO is performing a normal test of the  $10^{-6}$  % bistable functions.

### ANSWER

A

### COMMENTS

REF: OP-903-102, Safety Channel Nuclear Instrumentation Functional Test. R9 C7. Page 11.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
3	Comp or Analysis	New	

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 88

**QUESTION ID:** 5765      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** Administrative Control of Temporary Alterations

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 6/20/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 6/20/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** ADM      **CATEGORY:** PROCEDURE  
SRO LEVEL

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

UNT-005-004      14      00      3/24/2000

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

2-2-11      2.5      3.4\*      w-3-lp-ops-ppa00      2

### QUESTION

All of the following apply to the administrative control of Temporary Alterations, with the EXCEPTION of:

- A. The Shift Manager is responsible for authorizing the installation and removal of Temporary Alterations.
- B. Jumpers installed to allow a Waste Condensate discharge to occur with an inoperable LWM Rad Monitor require a Temporary Alteration.
- C. After a Temporary Alteration is installed, it can be partially restored by submitting a change through the ER process.
- D. Caution Tags should be placed on any remote or local control switches affected by the Temporary Alteration.

### ANSWER

B

### COMMENTS

REF: UNT-005-004, Temporary Alteration Control. R14 C0. Page 11, 13, 14, 31.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
3	Memory or Fundamental	New	41.10, 43.3

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 89

**QUESTION ID:** 5766      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** Tech Spec Application in Mode 4 for SITs

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 6/20/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 6/20/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE** X

**PLANT SYSTEM:** SI      **CATEGORY:** PROCEDURE  
SRO LEVEL

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

TS 3.5.1

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

2-2-22      3.4      4.1      W-3-LP-OPS-SI00      7

### QUESTION

The Plant is in Mode 4 performing a plant heatup and pressurization with RCS pressure at 450 psia and rising. SIT tank 2B suddenly depressurizes due to a broken N2 relief valve. The CRS notes the following SIT levels and pressures:

- 1A – 60.7%, 285 psig
- 1B – 60.2%, 235 psig
- 2A – 60.8%, 300 psig
- 2B -- 60.5%, 10 psig

Based on the given information, what Technical Specification Action should the CRS enter?

- A. 3.5.1.f
- B. 3.5.1.g.
- C. 3.5.1.h.
- D. 3.0.3

### ANSWER

D

### COMMENTS

Supply Student with Tech Spec 3.5.1.

REF: Technical Specifications, 3.5.1, Safety Injection Tanks. Page 3/4 5-1 and 5-2.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
3	Comp or Analysis	New	43.2

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 90

**QUESTION ID:** 5767      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** Actions taken during Refuel Ops with a Rising Count Rate

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 6/20/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 6/20/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** FHS      **CATEGORY:** PROCEDURE  
SRO LEVEL

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

RF-005-001      07      01      2/17/99

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

2-2-27      2.6      3.5      W-3-LP-OPS-FHS00      10  
W-3-LP-OPS-REQ04      7

### QUESTION

The plant is in Mode 6 with Core Alterations in progress. A fuel assembly has been inserted approximately 30' into the core when audible count rate starts a slow, steady rise. The Control Room informs the Refueling Machine Operator that source counts in the Control Room are rising on both Startup Channels beyond that expected for the move. What action should the Fuel Handling Supervisor order?

- A. Direct the Control Room to start an Airborne Radioactivity Removal unit.
- B. Direct the Refueling Machine Operator to withdraw the last fuel assembly inserted.
- C. Direct the Control Room to commence Emergency Boration.
- D. Direct the Refueling Machine Operator to ungrapple the fuel assembly and evacuate.

### ANSWER

B.

### COMMENTS

REF: RF-005-001, Fuel Movement. R7 C1. Page 5.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
3	Memory or Fundamental	New	43.6

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 91

**QUESTION ID:** 5769      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** Examples of Core Alterations

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 6/20/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 6/20/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** ADM      **CATEGORY:** PROCEDURE  
SRO LEVEL

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

RF-007-001      07      00      2/10/97

RF-001-001      07      01      1/4/2000

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

2-2-28      2.6      3.5      W-3-LP-OPS-REQ04      7

### QUESTION

Which of the following is considered a Core Alteration?

- A. Coupling 5 Finger CEAs
- B. Rx Vessel Test Specimen removal
- C. Removal of the Upper Guide Structure
- D. Initial Reactor Vessel Head removal

### ANSWER

C

### COMMENTS

REF: RF-001-001, Refueling Administration. R7 C0. Page 72

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
3	Memory or Fundamental	New	43.7



## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 92  
**QUESTION ID:** 5768 A **STATUS:** Draft **LAST USED**  
**DESCRIPTION:** Responsibilities of NPO during Fuel Movement  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 6/20/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 6/20/2000  
**QUIZ ONLY:** **CLOSED REFERENCE:** X **OPEN REFERENCE**  
**PLANT SYSTEM:** FHS **CATEGORY:** PROCEDURE  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 RF-005-001 07 01 2/17/99  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 2-2-30 2.6 3.3 W-3-LP-OPS-REQ04 3

### QUESTION

In Mode 6, which of the following is **NOT** the responsibility of the PNPO or SNPO (if stationed)?

- A. Verify proper Source Range instrumentation requirements are met prior to and during fuel movement.
- B. Maintain continuous communications with the required refueling stations during all core alterations.
- C. Emergency Borate if the actual boron concentration falls below the minimum refueling concentration.
- D. Monitor Reactor Cavity water level using available water level indicating systems during fuel movement.

### ANSWER

B

### COMMENTS

REF: RF-001-001, Fuel Movement. R7 C0. Page 13.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
3	Memory or Fundamental	New	

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 93

**QUESTION ID:** 5770      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** Areas NOT to enter inside of the Containment Building in Mode 1

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 6/20/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 6/20/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** CB      **CATEGORY:** PROCEDURE  
SRO LEVEL

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

HP-001-213      10      01      2/10/2000

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

2-3-1      2.6      3.0      w-3-lp-ops-ppa00      2

### QUESTION

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The plant is at 100% Power. OP-901-111, Reactor Coolant System Leak has been implemented due to a 2 gpm RCS leak. Preparations are being made for a Containment entry to locate the leak. During your pre-job brief, which of the following areas inside Containment will you prohibit entering?

- A. Reactor Vessel Annulus, Pressurizer Cubicle, and Regenerative Heat Exchanger Room Lower Level.
- B. Hot and Cold Leg penetration through the 'D' Ring Wall, Reactor Cavity, and the Pressurizer Cubicle.
- C. Regenerative Heat Exchanger Room lower level, Reactor Vessel, and Hot and Cold Leg penetrations through the 'D' Ring wall.
- D. Hot and Cold Leg penetration through the 'D' Ring Wall, Reactor Cavity, and the Reactor Vessel annulus.

### ANSWER

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D

### COMMENTS

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REF: HP-001-213, Control of Reactor Containment Building Power Entries. R10 C1. Page 5.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
3	Memory or Fundamental	New	41.12, 43.4

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 94

**QUESTION ID:** 5771 A **STATUS:** Draft **LAST USED**

**DESCRIPTION:** Requirements to Discharge WCT to Circ Water

**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 6/20/2000

**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 6/20/2000

**QUIZ ONLY:** **CLOSED REFERENCE:** X **OPEN REFERENCE**

**PLANT SYSTEM:** LWM **CATEGORY:** PROCEDURE

**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**

CE-003-512 00 02 1/17/2000

OP-007-004 14 03 6/12/98

**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**

2-3-6 2.1 3.1 W-3-LP-OPS-LWM00 8

### QUESTION

- The plant is in Mode 5
- Main Condenser Waterboxes B1, B2, C1 and C2 are out of service to clean condenser tubes
- The LWM discharge flow instrument is inoperable.
- The LWM Rad Monitor is inoperable.
- The Low Level Trip of WCT Pump A is out of service

A Release Permit has been issued by the Shift Chemist to discharge WCT A to Circ Water. Which of the following must be done to approve release of WCT A?

- A. Restore one of the required Waterboxes to service.
- B. Restore the LWM discharge flow instrument to operable.
- C. Restore the Low Level Trip for WCT Pump A to service.
- D. Restore the LWM radiation Monitor to operable.

### ANSWER

A

### COMMENTS

REF: OP-007-004, Liquid Waste Management System. R14 C3. Pages 7, 22-23.

\*Supply Student with Reference of applicable section of OP-007-004.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
3	Comp or Analysis	New	43.4

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 95

**QUESTION ID:** 5772      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** Condition required to secure a Containment Purge

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 6/20/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 6/20/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** CAP      **CATEGORY:** PROCEDURE  
SRO LEVEL

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

OP-002-010      13      05      4/11/2000

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

2-3-8      2.3      3.2      W-3-LP-OPS-TS00      3

### QUESTION

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The plant is in Mode 4, with Containment Purge in progress. Annual accumulated Containment Purge time for Tech Spec tracking is 65.2 hours. Which of the following conditions, requires you to direct securing Containment Purge?

- A. The Containment Purge duration is 25.0 hours.
- B. Ambient barometric pressure indicates 30.4 INHG.
- C. Loss of the data link from the Met Towers to the PMC.
- D. The plant changes modes from Mode 4 to Mode 3.

### ANSWER

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A

### COMMENTS

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REF: T.S. 3.6.1.7. \*Supply Tech Spec 3.6.1.7 to student.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
3	Comp or Analysis	New	43.4

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 96  
**QUESTION ID:** 5773 A **STATUS:** Draft **LAST USED**  
**DESCRIPTION:** Fuel Handling Incident Action  
**AUTHOR:** dcassid **REVISION** 0 **REVISION DATE** 6/21/2000  
**REFERENCE VERIFIED:** dcassid **VERIFICATION DATE:** 6/21/2000  
**QUIZ ONLY:** **CLOSED REFERENCE:** X **OPEN REFERENCE**  
**PLANT SYSTEM:** HVF **CATEGORY:** PROCEDURE  
 SYSTEM  
**REFERENCE:** **REVISION:** **CHANGE:** **DATE:**  
 OP-901-405 01 00 7/5/97  
**NRC KA NUMBER:** **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**  
 2-3-10 2.9 3.3 W-3-LP-OPS-PP040 3

### QUESTION

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An automatic Fuel Handling Building Isolation (Fuel Handling Accident) signal occurred and all systems/equipment in the FHB are operating as designed. Which of the following MANUAL actions must be taken for this event?

- A. Start a Fuel Handling Building Emergency Filtration Unit.
- B. Secure Fuel Handling Building Normal Ventilation system.
- C. Start the Fuel Handling Building WRGM sample pump.
- D. Start a Fuel Handling Building HV Room Exhaust Fan.

### ANSWER

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C

### COMMENTS

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REF: OP-901-405, Fuel Handling Incident. R1 C0. Page 9.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
3	Memory or Fundamental	New	43.4

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 97

**QUESTION ID:** 5774      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** Methods of checking Safety Functions during EOP Implementation

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 6/21/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 6/21/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** ADM      **CATEGORY:** PROCEDURE

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

op-100-017      00      01      7/3/00

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

2-4-22      3.0      4.0      W-3-LP-OPS-PPE01      4

### QUESTION

Safety Functions are checked during EOP implementation by each of the following methods with the exception of:

- A. Safety Function Status Check section of each Optimal Recovery Procedure.
- B. The performance of Standard Post Trip Actions.
- C. Safety Function Status Check section of the Functional Recovery Procedure.
- D. The performance of the Diagnostic Flowchart.

### ANSWER

D

### COMMENTS

REF: OP-100-017, Administrative Procedure Emergency Operating Procedure Implementation Guide. R0 C0.  
Page 16.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
3	Memory or Fundamental	New	43.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 98

**QUESTION ID:** 5775      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** SM/CRS Actions on Plant Sabotage

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 6/21/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 6/21/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** ADM      **CATEGORY:** PROCEDURE  
SRO LEVEL

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

UNT-006-010      16      3      5/28/98

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

2-4-28      2.3      3.3      w-3-lp-ops-ppa00      2

### QUESTION

The RAB Watch reports a suspicious looking device in the bottom of a CEDMCS cabinet. The suspect device has a timer that is running. The SM/CRS carry out the following actions with the exception of:

- A. Directing the NAO to move to a safe distance and await security personnel.
- B. Calling 911 and requesting St. Charles Sheriff's Office send bomb experts.
- C. Performing notification of the NRC via the ENS within 1 hour.
- D. Contacting the Security Shift Supervisor and the Operations Manager.

### ANSWER

B

### COMMENTS

REF: UNT-006-010, Event Notification and Reporting. R16 C3. Page 39. \*Supply student attachment from UNT-006-010.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
3	Memory or Fundamental	New	41.19, 43.5

## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 99

**QUESTION ID:** 5776      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** Immediate Operator Actions on Control Room Evacuation.

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 6/21/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 6/21/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** ADM      **CATEGORY:** PROCEDURE

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

OP-901-502      05      02      1/6/2000

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

2-4-49      4.0      4.0      W-3-LP-OPS-PPO51      2

### QUESTION

The following are Immediate Actions in accordance with OP-901-502, Control Room Evacuation, with the exception of:

- A. Trip the Reactor and verify all CEAs fully inserted.
- B. Verify SGFPs are in Reactor Trip Override.
- C. Reset the Moisture Separator Reheater controls.
- D. Verify Pressurizer Spray Valve Selector Switch is in Both.

### ANSWER

B

### COMMENTS

REF: OP-901-502, Evacuation of the Control Room and Subsequent Plant Shutdown. R5 C2. Page 5.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
3	Memory or Fundamental	New	41.10, 43.2



## Waterford 3 Examination Question Examination Bank

**Examination Question Number** 100

**QUESTION ID:** 5777      **A**      **STATUS:** Draft      **LAST USED**

**DESCRIPTION:** Actions in response to Alarm on Reactor Startup

**AUTHOR:** dcassid      **REVISION** 0      **REVISION DATE** 6/21/2000

**REFERENCE VERIFIED:** dcassid      **VERIFICATION DATE:** 6/21/2000

**QUIZ ONLY:**      **CLOSED REFERENCE:** X      **OPEN REFERENCE**

**PLANT SYSTEM:** PPS      **CATEGORY:** PROCEDURE

**REFERENCE:**      **REVISION:**      **CHANGE:**      **DATE:**

OP-500-009      05      1      8/16/99

**NRC KA NUMBER:**      **RO**      **SRO**      **TRAINING MATERIAL:**      **OBJECTIVE**

2-4-50      3.3      3.3      W-3-LP-OPS-PPN01      3

### QUESTION

A plant startup and power ascension is in progress. Reactor Power is at 1.5E-4% and rising slowly. Annunciator D-13 on Alarm Panel K, Logarithmic Pwr Hi By-Pass, was just received. In response to this alarm, what action will the CRS direct to ensure power ascension can continue to Mode 1?

- A. Manually bypass the Hi Log Power Trip for each channel at CP-10.
- B. Verify that Hi Log Power Trip auto bypass feature occurs on all channels.
- C. Manually bypass the Hi Log Power Trip for each channel at CP-7.
- D. Verify that Hi Log Power Trip auto bypass removal occurs on all channels.

### ANSWER

C

### COMMENTS

REF: OP-500-009, Control Room Cabinet K. R5 C1. Page 53.

Tier/Group (SRO)	Cognitive Level	Question Source	10 CFR Part 55 Content
3	Memory or Fundamental	New	