Facility: **WATERFORD 3**	Date of Examination: **August 12, 2011**
Examination Level: **RO**	Operating Test Number: **1**

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
A1 Conduct of Operations K/A Importance: 3.9	S, M	2.1.19, Ability to use plant computers to evaluate system or component status. Perform a Containment pressure calculation in accordance with OP-903-001, Technical Specification Surveillance Logs, Attachment 11.15.
A2 Conduct of Operations K/A Importance: 3.9	R, M	2.1.25, Ability to interpret reference materials, such as graphs, curves, tables, etc. Determine the minimum time allowed to place Shutdown Cooling in service in accordance with OP-902-009, Standard Appendices.
A3 Equipment Control K/A Importance: 3.7	S, N	2.2.12, Knowledge of surveillance procedures Complete assessment of heated and Unheated thermocouple in accordance with OP-903-013, Monthly Channel Checks, Attachment 10.3.
A4 Radiation Control K/A Importance: 3.8	R, N	2.3.11, Ability to control radiation releases. Complete release permit for a Waste Condensate Tank release.
Emergency Plan		Not selected

NOTE: All items (5 total are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.

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

Facility:	**WATERFORD 3**	Date of Examination:	**August 12, 2011**
Exam Level	**Reactor Operator**	Operating Test No.:	**NRC**

Control Room Systems@ (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)

	System / JPM Title	Type Code*	Safety Function
S1	004 Chemical and Volume Control System, Perform OP-903-096, Boron Flow Rate Verification. A4.07 Boration/Dilution RO – 3.9	D, L, S	1
S2	006 Emergency Core Cooling System, Evaluate the need and establish simultaneous hot and cold leg injection in accordance with OP-902-002, Loss of Coolant Accident Recovery. A4.07, ECCS pumps and valves RO – 4.4	D, L, P, S	2
S3	009 Small Break LOCA, Test RC-1014, 1015, and RC-1017 in accordance with OP-903-098, RCS Vent System Functional Check and Valve Lineup Verification. EA1.17 Pressurizer Relief Tank RO – 3.4	D, L, S	3
S4	059 Main Feedwater System; Secure Main Feedwater Pump B at power in accordance with OP-003-033, Main Feedwater. Fault: Main Feedwater Pump B will develop high vibration during shutdown sequence; manual action will be required to secure Main Feedwater Pump B. A2.07 Tripping of MFW pump turbine RO – 3.0	A, M, S	4 – S
S5	003 Reactor Coolant Pump System, Start Reactor Coolant Pump 1A in accordance with OP-001-002, Reactor Coolant Pump Operation. Fault: RCP 1A will develop a seal leak and high vibration, requiring action to secure pump. A4.06 RCP parameters RO – 2.9	A, D, L, S	4 – P
S6	064 Emergency Diesel Generator (ED/G) System; Parallel Emergency Diesel Generator A across Bus Tie breaker 3A -2A with a SIAS signal actuated in accordance with OP-902-009, Standard Appendices. A4.07 Transfer ED/G (with load) to grid RO – 3.4	D, L, S	6
S7.	060 Accidental Gaseous Waste Release; Restore Control Room ventilation following a Control Room Isolation Signal in accordance with OP-003-014, Control Room Heating and Ventilation. AA1.02 Ventilation system RO – 2.9	D, S	8
S8.	068 Liquid Radwaste System; Discharge WCT A to the Circulating Water System in accordance with OP-007-004, Liquid Waste Management System Fault: Upon initiation of flow, controller fails in raise, exceeding maximum flow allowed, requiring the operator to manually close the isolation valves. A4.03 Stoppage of release if limits exceeded RO – 3.9	A, D, P, S	9

In-Plant Systems[@] (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)			
P1	005 Shutdown Cooling System Secure Shutdown Cooling Purification in accordance with OP-009-005, Shutdown Cooling. Fault: During the manipulations, a reach rod valve will fail, requiring corrective actions. A2.04 RHR valve malfunction RO – 2.9	A, L, M, R	4 – P
P2	062 A.C. Electrical Distribution Transfer SUPS 014AB from Alternate to Normal AC Power in accordance with OP-006-005, Inverters and Distribution. Fault: After alignment, voltage will not be indicated on SUPS 014 AB inverter. A3.04 Operation of inverter RO – 2.7, SRO – 2.9	A, D, P	6
P3	061 Emergency Feedwater System; Complete OP-903-001, Technical Specification Surveillance Logs, Attachment 11.12, Emergency Feedwater Steam Binding Corrective Actions. A2.06 Back leakage of MFW RO – 2.7	E, N, R	4 – S

@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for **RO** / SRO-I / SRO-U	
(A)lternate path	4-6 / 4-6 / 2-3	5
(C)ontrol room		0
(D)irect from bank	≤ 9 / ≤ 8 / ≤ 4	8
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1	1
(EN)gineered safety feature	- / - / ≥1 (control room system)	-
(L)ow-Power / Shutdown	≥ 1 / ≥ 1 / ≥ 1	6
(N)ew or (M)odified from bank including 1(A)	≥ 2 / ≥ 2 / ≥ 1	3
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)	3
(R)CA	≥ 1 / ≥ 1 / ≥ 1	2
(S)imulator		8