

Questions on Nov. 2004 Waterford 3 Written Examination  
Missed By 50% Or Greater Of Candidates

35	Missed by 4 of 8 candidates. Each candidate selected D. D is incorrect because the setpoint for the CPC auxiliary trip is higher than the pressurizer pressure low trip. After review of the question Waterford has determined that the question is valid.
45	Missed by 5 of 8 candidates. Four candidates selected C and one candidate selected A. A is incorrect because the controller is in manual with an output above the reset point for RTO. Therefore RTO will not clear. C is incorrect because when the level reaches the HLO setpoint of 81% NR all valves supplying flow to the SG get a 0% output signal closing the valves well below the closure setpoint for the Main Feedwater Isolation Valve. Waterford has determined that this question is valid.
51	Missed by 5 of 8 candidates. Three candidates selected A and two candidates selected B. Waterford has operating experience with the radiation monitors in question that spiking can occur due to the detectors being exposed to light when opening ductwork. This is a phenomenon specific to a faulty scintillation (photomultiplier tube) detector. Waterford has determined that this is a valid question.
56	Missed by 6 of 8 candidates. Three candidates selected B, two candidates selected A, and one candidate selected D. A and B are incorrect because they are powered from a different bus than the CEA MG sets and would not affect the power supply for the CEA MG sets. D is incorrect because the proportional heater secondary protection for its respective containment penetration does not affect the supply breaker to the bus (Breaker-Fuse scheme vice Breaker-Feeder Breaker scheme). Waterford has determined that this is a valid question.
64	Missed by 7 of 8 candidates. Five candidates selected D and two candidates selected B. D is incorrect because these dampers get an open signal on a Fuel Handling Building Isolation Signal. B is incorrect because the room temperature of the FHB HVAC Room must exceed 85 degrees F to get a start signal for the fan in question. Waterford has determined that this is a valid question.
77	Missed by 3 of 4 candidates. Each candidate selected D. This is the value that the SRO generally selects until conditions allow a more detailed look at the Pressure Temperature limit curve. Since the curve was supplied and the question asked for the minimum pressure the candidates should have concluded that C was the correct answer. Waterford has determined that this is a valid question.
80	Missed by 2 of 4 candidates. One candidate selected B and one candidate selected D. Similar to the opposite train Emergency Diesel Generator, the TEDG is only required to be started the first time you are verifying availability. This is spelled out in both the surveillance requirements of TS 3.8.1.1 and the bases for the TS. Waterford has determined that this is a valid question.

Waterford III 2004 SRO/RO Initial License Examination  
Justifications for Changes from Initial Approved Outlines  
Written Examination

RO Written Outline

1. Changed K/A for 029 ATWS in Tier 1/Group 1 from EA1.02 to EA1.15. The original KA was for Charging pump suction from RWST selector switch which has no operational value for ROs. The new KA is for AFW Emergency Feed Actuation Signal EFAS.
2. Replaced 058 Loss of DC Power AA1.03 with 062 Loss of Nuclear Service Water AA1.01 in Tier 1/Group 1. This system has been more problematic at Waterford. Additionally, Waterford has no Vital or Battery bus components that are operated in the Control Room.
3. Changed 060 Accidental Gaseous Radwaste release AA1.01 to AA1.02 in Tier 1/Group 2. The original K/A was for Area Radiation Monitors which would have led to over sampling. The new K/A covers ventilation systems.
4. Changed 074 Inadequate Core Cooling 2.2.2 to 2.4.47 in Tier 1/Group 2. The original K/A had low operational value for offnormal evolutions. The new K/A is more operationally oriented

SRO Written Outline

1. Replaced 059 Accidental Liquid Radwaste AA2.03 with 069 Loss of Containment Integrity AA2.01 in Tier 1/Group 2. The original K/A was not SRO level, the new K/A is higher cognitive level and a higher K/A value.
2. Replaced 063 DC Electrical Distribution A2.01 with 006 Emergency Core Cooling A2.13 in Tier 2/Group 1. The original K/A had low cognitive level and low operational validity for SROs. The new K/A is higher cognitive level and more SRO operationally oriented.
3. Replaced 065 Loss of Instrument Air, AA2.06 with AA2.05. The original K/A was determined to be common knowledge for a RO or SRO.

Category C Outline

Scenario 2 Initial conditions changed from 51% EOC to 100% EOC, based on comments from validation team. It was not realistic that power would be held at 51 percent with ASI continuing to go positive with CEA inserted to the point shown in the Initial Condition (IC) snapshot. CEA as shown in the snapshot was consistent with CEA position experienced in the plant during a shutdown at EOC conditions.