

Exam Question Analysis
Arkansas Nuclear One Unit 2
July 2003

RO Exam (7 candidates)

- Question 18 Question Contested. In accordance with ANO Unit 2 Technical Specification Bases, extended operation with CEAs significantly inserted in the core may lead to perturbation in 1) local burnup, 2) peaking factors and 3) available SHUTDOWN MARGIN. Local burnup will affect Azimuthal Power Tilt (selection A), peaking factors are used in CPCs to calculate the Axial Shape Index (selection D) and both Azimuthal Power Tilt and Axial Shape Index are used in CPCs to calculate DNBR (selection B). The correct answer by the answer key is selection C, Hot Channel Factors. The term Hot Channel Factors is not found in any of the Technical Specification Bases. It is recommended this question be deleted from the exam due to multiple correct answers based upon ANO Unit 2 Technical Specifications and no ability to justify the correct answer listed on the exam key.
- Question 50 Question Contested. While this question came from ANO's NRC exam bank, there is a note at the bottom of the question in the bank that states "Accepted both A and B as answers on 2000 SRO & RO Exams by NRC. Needs to be revised before using on another exam." The fact that this question had not been revised by the exam developer during the exam validation week was missed. Following the 2000 SRO & RO exam, extensive research was done to determine the impact of the NRC Information Notice on training material. It was determined that there was no evidence to prove that the Condensate Cross Connect valve, 2CV-0742, is required to be opened during MFP operation to prevent condensate piping over pressurization (the correct answer by the answer key), therefore the training material was not changed. Currently the training material states "A cross connect valve, 2CV-0742, in the common suction header to the Feedwater pumps allows all of the condensate sources to be connected to either Feedwater pump at all times." which is consistent with selection A, Equalize Condensate Flow. The question had not been revised because ANO had not picked it from the exam bank to be used on an exam. It is requested to accept two correct answers; "A" and "B" for this exam. TEAR ANO-2003-317 has been initiated to revise the question in the exam bank.
- Question 99 Question and answer are correct as written. This was classified to be a EOP/AOP usage guide knowledge deficiency and candidates assumption as to where the feed line break was located. This has been reviewed with the candidates. No program changes were required.
- Question 100 Question and answer are correct as written. This was classified to be a knowledge deficiency in the actions required to be taken for a Loss of Feedwater and that the majority of candidates misread the conditions and answered the question based upon A SG level indication of 17.4% and not 17.4 inches. This has been reviewed with the candidates. No program changes were required.

SRO Exam (7 candidates)

- Question 6 Question and answer are correct as written. This was classified to be a knowledge deficiency in the ability to differentiate between an excess steam demand and a loss of coolant accident based solely upon margin to saturation when plant conditions indicate that margin to saturation is less than full power margin to saturation. TEAR ANO-2003-318 has been initiated to address this deficiency.
- Question 18 Question and answer are correct as written. This was classified to be a Standard Attachment 19, Control of Secondary Contamination knowledge deficiency. This Attachment is normally completed by an NLO. This has been reviewed with the candidates. No program changes were required.
- Question 35 Question and answer are correct as written. This was classified to be a knowledge deficiency related to the effects of a loss of coolant accident on steam generator level. This has been reviewed with the candidates. TEAR ANO-2003-319 has been initiated to address this deficiency.
- Question 49 Question and answer are correct as written. This was classified to be a knowledge deficiency related to which rod bottom contacts reset the Plant Computer pulse counter. This has been reviewed with the candidates. No program changes were required.
- Question 77 Question and answer are correct as written. This was classified to be a knowledge deficiency related to the bases for actions taken for degrading vacuum. This was reviewed with the candidates. No program changes were required.
- Question 97 Question and answer are correct as written. This was classified to be a knowledge deficiency related to Radiological Survey requirements. This has been reviewed with the candidates. No program changes were required.
- Question 99 Question and answer are correct as written. This was classified to be a EOP/AOP usage guide knowledge deficiency and candidates assumption as to where the feed line break was located. This has been reviewed with the candidates. No program changes were required.
- Question 100 Question and answer are correct as written. This was classified to be a knowledge deficiency in the actions required to be taken for a Loss of Feedwater and that the majority of candidates misread the conditions and answered the question based upon A SG level indication of 17.4% and not 17.4 inches. This has been reviewed with the candidates. No program changes were required.

2003 ANO-2 SRO/RO Exam Analysis																											
SRO Q#	7 Correct		SRO A		SRO B		SRO C		SRO D		SRO E		SRO F		SRO G		RO Q#	Correct	RO A	RO B	RO C	RO D	RO E	RO F	RO G	% MISS	BOTH
	7	Correct	SRO A	SRO B	SRO C	SRO D	SRO E	SRO F	SRO G	RO A	RO B	RO C	RO D	RO E	RO F	RO G											
92	B																95	B								0%	0%
93	D																										0%
94	C																96	C								0%	0%
95	D			B				C									97	D							C	14%	21%
96	A																98	A								0%	0%
97	C		D	A	B	A																					
98	C			A																							
99	D			C	C	C											99	D		C	C	C	C	C		71%	64%
100	C		A	A	A	A		A									100	C	A	A	A	A	A	A		86%	79%
Grade:			91.0	88.0	87.0	80.0	91.0	91.0	91.0	92.0	88.6								94.0	94.0	94.0	92.0	95.0	93.0	96.0	94.0	91.3