

1CAN062001

June 11, 2020

Mr. Kelly Clayton, Chief Examiner
U.S. Nuclear Regulatory Commission
Region IV
1600 East Lamar Blvd
Arlington, TX 76011-4511

SUBJECT: Initial Examination – Completion of Post-Examination Analysis and transmittal of final examination materials for ANO, Unit 1 (BW)

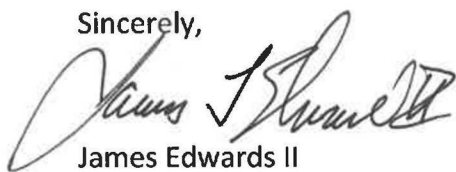
Dear Mr. Clayton,

Contained in this submittal are the post-examination materials as required per NUREG 1021 Rev. 11 for the Arkansas Nuclear One Unit 1 Initial license operating tests administered during the week of June 1, 2020 and the written examinations administered on April 2, 2020.

We also request that all examination materials related to the ANO Unit 1 2020 NRC Operator License Examinations be withheld from public disclosure for a period of two and one-half years from this date.

Please contact Randal Martin at 479-858-6844 if you have any questions regarding this submittal.

Sincerely,



James Edwards II
Manager, Training
Arkansas Nuclear One



Randal Martin
Facility Reviewer
Arkansas Nuclear One

Attachments

cc w/o attachments: ANO Licensing

2020 ANO-1 NRC Exam Administered April 2, 2020

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RO Final Written Examination Analysis

The threshold for determination of questions to be analyzed was a percentage of greater than 50% incorrect responses. We also analyzed other questions based on candidate feedback following the examination.

#63

7/14 total candidates incorrect (50.0%)

Six chose "A", one chose "B". The correct answer is "C".

This question asks the minimum pressure that will open the relief valve installed on the Waste Gas Decay Tanks (T-18A/B/C/D) and where the pressure is relieved. The correct answer is "C" 133 psig and relieves to the Waste Gas Surge Tank T-17.

Distractor "A" was chosen the most which had the correct relief location but the incorrect setpoint of 85 psig which corresponds to the high pressure alarm setpoint. Distractor "B" had the incorrect setpoint and incorrect location. This question is valid as written. No change to the key was made. The question is technically correct as written, with no construction problems. We will be performing training needs analysis on this question.

SRO Final Written Examination Analysis

The threshold for determination of questions to be analyzed was a percentage of greater than 50% incorrect responses. We also analyzed other questions based on candidate feedback following the examination.

#88

3/6 SRO candidates incorrect (50.0%)

Three chose "C". The correct answer is "D".

This question asks the TS basis for MSIV operability. The correct answer "D" states the MSIV closure reduces the overcooling and subsequent core reactivity effects. Distractor "C" states to minimize offsite dose to the public for a Main Steam Line Break event downstream of the MSIV. This question is valid as written. No change to the key was made. The question is technically correct as written, with no construction problems. We will be performing training needs analysis on this question.

#95

3/6 SRO candidates incorrect (50.0%)

Three chose "C". The correct answer is "D".

This question asks how long the reactor must be subcritical prior to moving fuel and who grants permission. The correct answer "D" states reactor must be subcritical for 100 hrs and permission is granted by both the Reactor Engineer and the SRO in charge of fuel handling. Distractor "C" has the correct time of 100 hrs but the Shift Manager as being the one who grants permission. This question is valid as written. No change to the key was made. The question is technically correct as written, with no construction problems. We will be performing training needs analysis on this question.

Applicant Questions and Proctor Responses

Time	QID	Applicant	Question Asked	Proctor Response
8:51:00 AM	20		If C is true doesn't D have to be true?	Required per 1203.016 trip setpoint. Note: After discussion with NRC lead examiner this was written on the board
8:58:00 AM	79		Are we allowed to use the EAL chart?	No.
9:06:00 AM	1		How long has SG been at this level?	Answer the question based on the given choices.
9:08:00 AM	17		Do multiple channels see 360Mwe?	Actual MW is 360Mwe.
9:10:00 AM	5		Do we know why the MUP tripped?	Other than the given, all parameters are normal.
9:18:00 AM	85		Are there no EFW pumps operating?	Re-read the question.
9:19:00 AM	20			Required per 1203.016 trip setpoint. Note: After discussion with NRC lead examiner this was written on the board
9:26:00 AM	26		Do we know what caused the FWP to trip?	No.
9:30:00 AM	38		What to you mean by direct affect?	No operator action.
9:41:00 AM	35		Is the crosstie valve stuck or still traveling open?	Re-read the question.
10:04:00 AM	43		C/D rate per 1102.010? Or T.S.?	Re-read the question.
10:06:00 AM	10		Did EDG pick up A4?	Assume the plant operates as designed other than what is given in the question.
10:12:00 AM	46		What is CV-2613?	Re-read the question.
10:19:00 AM	1		Have we had the conditions given for 60 seconds?	No, after 60 seconds the conditions are now true.
10:24:00 AM	3		Does accident position mean dropped?	It means ESAS actuated position.
10:33:00 AM	12		Has ESAS actuated?	Re-read the question.
10:46:00 AM	39		It is asking RPS trip logic?	With the given conditions, what is the RPS trip logic?
10:49:00 AM	18		Are there any known problems with the LCVs?	Assume the plant operates as designed other than what is given in the question.
10:51:00 AM	24		Does standby mean that RB press <4psig?	Standby means not running.
10:55:00 AM	46		Has P-7B been manually started yet?	Answer for the given conditions.
10:58:00 AM	18		Was S/G level raised in auto or manual?	Assume the information that is given.
11:00:00 AM	56		Can you tell me that the APSRs are fully withdrawn?	No, from whatever position they are.
11:05:00 AM	65		Is this for immediately after?	Yes.
11:06:00 AM	46		Has AAC generator energized A3 yet?	Only assume the information that is given.
11:08:00 AM	24		Is leak big enough to cause RB coolers to start?	Assume each choice is a stand alone condition.
11:20:00 AM	35		The other MFWP should get a demand to raise speed, is this saying that there is a problem with the MFWP?	Don't assume anything that isnt given in the stem.
11:26:00 AM	61		Is it asking rising or lowering?	Asking in relation to the pre-trip values.
11:42:00 AM	24		Is LOCA large enough to cause RB coolers to start?	Each choice is stand alone condition.
11:52:00 AM	29		Do we assume any calibration variations because it trips at whatever it is set at in the field?	Assume it is set at the procedural setpoint.
11:57:00 AM	46		Is CV-2613 red train?	Can't answer that question. Do your best.
12:06:00 PM	56		Is it asking the effect that it has? What is "to" trying to say?	Where is it prohibited and why.
12:18:00 PM	77		Is this asking flow limit for alarm only?	Just assume the information given.
12:19:00 PM	79		Rev 5 or Rev 6 EALs?	Rev. 6.
12:20:00 PM	88		Is this asking the basis for the action or the basis for the time limit or both?	Asking TS basis for MSIV operability.
12:22:00 PM	91		Have action in "A" been completed?	What will CRS direct to be performed next?
12:30:00 PM	16		Have we lost power?	Assume only what is given in the question.
12:33:00 PM	34		What does degas mean?	Remove gasses from solution.

Time	QID
12:41:00 PM	21
12:42:00 PM	79
12:43:00 PM	2
1:01:00 PM	71
1:03:00 PM	89
2:00:00 PM	79
3:19:00 PM	65

Question Asked	Proctor Response
Are any unplanned releases in progress?	Only assume information provided in stem.
Do I get a reference?	No reference provided.
How big is the leak?	Upper tap sheared off.
Would RP be notified?	Select from one of the choices provided.
Does this choice read less than 1 spray train and less than 1 train RB cooling?	Yes.
Does it matter what FC or CNB is now?	Just assume the information given.
Is this assuming in general or at the time of implementation?	At this time of implementation.