

## Form 2.3-5 Written Examination Review Worksheet

| Q#                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1. LOK (F/H) | 2. LOD (1-5) | 3. Psychometric Flaws |      |     |             |         | 4. Job Content Flaws |         |         |       | 5. K/A Use Flaws |               | 6. Source (B/M/N) | 7. Status (U/E/S) | 8. Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |              | Stem Focus            | Cues | T/F | Cred. Dist. | Partial | Job Link             | Minutia | #/Units | Logic | Q-K/A            | License Level |                   |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| <p>General Comments:</p> <ul style="list-style-type: none"> <li>The attached references cover page should not title what the reference is. The individual questions indicate that a handout is provided, and the applicant can then determine which one he/she needs.</li> <li>When you have provided reference material for an individual question, they question stem needs to state that.</li> <li>Answer distribution for the RO exam is 24-20-13-18 for A-B-C-D respectively. If no answer distribution changes after revision to the questions, please reorder 3 questions currently with A as an answer to make C the correct answer.</li> <li>Answer distribution for the SRO exam is 9-4-6-6 for A-B-C-D respectively. If no answer distribution changes after revision to the questions, please reorder 2 questions currently with A as an answer to make B the correct answer.</li> </ul> |              |              |                       |      |     |             |         |                      |         |         |       |                  |               |                   |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | F            | 2            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | E<br>S            | Free review. D can be argued as a correct answer, since the tech spec bases states, "instrumentation and controls for the CRFA System have been provided to automatically initiate action to isolate the main control room (MCR) to minimize the consequences of radioactive material in the control room environment." Called edit since it was a free review question. <a href="#">Revised D to be farther from correct. Question now SAT.</a>                                                                                                                                                                                                  |  |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | M                 | E<br>S            | The explanation for the correct answer states that the PACs do not have a low cooling water trip, but it does not address the high cabinet temperature trip, which is the correct answer in the parent question, with the same valve failure. What is the normal PAC lineup? This question has two PACs running at 100% power while Q30 has only one running at 100% power. <a href="#">Revised wording of A, C, and D slightly to create better focus on low cooling water trip. Revised explanation accordingly. Normal lineup has 2 PACs running at 100% power, as in this question. Will address lineup in question 30. Question now SAT.</a> |  |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | E<br>S            | The statement in the stem, "Which one of the following describes the need to enter the Radioactivity Release Control section of EP-4" is unnecessary. It should be deleted. <a href="#">Deleted question sentence. Question now SAT.</a>                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | F            | 2            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | E<br>S            | I don't believe C and D, taken together, are credible. IF water were used, then C and D would obviously both be correct. And since there can't be 2 correct answers, the two are not credible. Either would be without the other. Called edit since it was used on previous NRC exam. <a href="#">Revised original choice C (and moved to D). Question now SAT.</a>                                                                                                                                                                                                                                                                               |  |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | E<br>S            | Stem states suppression pool level is at 17.2', but the distractor analysis states it is at 16.0'. 15.0' might be better ... closer to 14.5', and many of the EOP figures notate 15.0'. Should be a fundamental cognitive question. Simply remembering that 14.5' water level is adequate. <a href="#">Revised to be 16.0' in stem to match explanations. Validated poorly (50% miss rate) with</a>                                                                                                                                                                                                                                               |  |

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|----|--------------|--------------|-----------------------|------|-----|-------------|---------|----------------------|---------|---------|-------|------------------|---------------|-------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |              |              | Stem Focus            | Cues | T/F | Cred. Dist. | Partial | Job Link             | Minutia | #/Units | Logic | Q-K/A            | License Level |                   |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|    |              |              |                       |      |     |             |         |                      |         |         |       |                  |               |                   |                   | stem at 16.0', so do not wish to make even lower. Revised to lower cognitive level. Question now SAT.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 6  | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | E<br>S            | Is it necessary to state "with injection" to the correct answer? Steam cooling without injection is next in preferential order. I just think having "with injection" almost cues the answer, since the stem states you are injecting. Deleted "with injection" from the end of D. Question now SAT.                                                                                                                                                                                                                                                                                                                                                                                         |
| 7  | F            | 4            |                       |      |     |             |         |                      |         |         |       |                  |               | M                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 8  | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | M                 | E<br>S            | In the stem, instead of "all required emergency loads," change to "connected essential loads" to be consistent with the verbiage in the UFSAR. Changed made as requested. Question now SAT.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 9  | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 10 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | M                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 11 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 12 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | E<br>S            | The stem doesn't really set up to be in 05-1-02-I-4. It could be for routine maintenance or something. 1021 requires ensuring that Tier 1 questions test an applicant's knowledge of how to safely operate the plant during emergency and abnormal conditions. Add some conditions in the stem that set you up to be in the abnormal procedure. B is also a correct answer, because the statement is true, the breaker is not capable of remote operation. The distractor says OR not AND. Edited 1st two bullets to provide information that bus losses are due to abnormal conditions. Edited original distractor B to change from an OR statement to an AND statement. Question now SAT. |
| 13 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 14 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 15 | H            | 3            |                       |      |     | X           |         |                      |         |         |       |                  |               | N                 | U<br>S            | I am going to need to be more convinced that the output breakers remaining open following a turbine trip is ever a plausible distractor. Revised wording of question and answer choices to address plausibility concern. Question now SAT.                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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| 16 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | E<br>S            | 56 Hz seems unreasonable low. Any reason the stem can't put the frequency at 58 Hz? Additionally, wouldn't the reactor already be scrambled? 3.25 seconds after dropping below 58.48 Hz? One could argue that B is also correct since a manual scram would not be required if the reactor is already scrambled? <b>Raised frequency to 58 Hz. Deleted "manual" before "Reactor scram" to address any issue between manual vs. automatic scram. Question now SAT.</b>  |
| 17 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | E<br>S            | Since the EOP direct actions either "BEFORE" something happens or "WHEN" something happens, change C and D to indicate when temperature reaches 110°F. Want to ensure the station confirms that the reason is RO level of knowledge, because it seems beyond RO knowledge to me. <b>Adjusted wording of 1<sup>st</sup> column answer choices to utilize "before" and "when". Also changed "SBLC" to "SLC" for consistency with other questions. Question now SAT.</b> |
| 18 | F            | 3            |                       |      |     | X           |         |                      |         |         |       |                  |               | B                 | U<br>S            | With (1) being only in the correct answer, all one needs to know to answer this question is whether or not instrument air needs to be restored. That would be fine if it were a tier 2 instrument air question, but not a tier 1 question on ATWS. It also makes it an "all of the above" type question. <b>Adjusted answer choices to get have (1) in more than once choice. Question now SAT.</b>                                                                   |
| 19 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | M                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 20 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 21 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 22 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 | Would change LOD back to 3 as it was in the bank question since it is a bank from a relatively recent NRC exam. <b>Lowered LOD rating to 3.</b>                                                                                                                                                                                                                                                                                                                       |
| 23 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 24 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | E<br>S            | B is also a correct answer. EP-3 requires securing spray before 0 psig and if you secure before it reaches 1.23 psig, you have satisfied the EOP. Instead of saying limit, say maximum. Recommend capitalizing BEFORE in the question. <b>Re-worded question and answer choices to ensure student must</b>                                                                                                                                                            |

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|----|--------------|--------------|-----------------------|------|-----|-------------|---------|----------------------|---------|---------|-------|------------------|---------------|-------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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|    |              |              |                       |      |     |             |         |                      |         |         |       |                  |               |                   |                   | pick the threshold value (changing "limit" to "maximum" alone didn't work well when attempted). Capitalized "before". <b>Question now SAT.</b>                                                                                                                                                                                                     |
| 25 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | E<br>S            | Swap distractors B and C such that part 1 is the same for A and B, and part 2 is the same for A and C. This changes correct answer to C. Also, if Below is capitalized, Above should also be capitalized. <b>Re-ordered answer choices as requested. Un-capitalized "Below". Question now SAT.</b>                                                 |
| 26 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 |                                                                                                                                                                                                                                                                                                                                                    |
| 27 | H            | 4            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 |                                                                                                                                                                                                                                                                                                                                                    |
| 28 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | E<br>S            | Don't like the unbalanced part 1 of this question. Easily fixed. Eliminate the 2 x 2 format and focus in on RPS response. Distractor A is rod withdrawal block with half scram, B is no "rod withdrawal block with half scram, C is half scram only, and D is full scram. <b>Revised answer choices to get rid of 2x2 table. Question now SAT.</b> |
| 29 | F            | 4            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 | <b>Prior 2 NRC Exams</b>                                                                                                                                                                                                                                                                                                                           |
| 30 | H            | 3            |                       | X    |     |             |         |                      |         |         |       |                  |               | N                 | U<br>S            | This question provides too much information for question 82, i.e., that instrument air. Additionally, it doesn't seem plausible to me that a compressor that is shutdown can ever be running with no operator action. <b>Replaced with bank question. Question now SAT.</b>                                                                        |
| 31 | F            | 4            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | E<br>S            | Is the ground detection system for the battery, as the question asks, or the bus, which is where the ground detector is located. <b>Revised "Battery" to "DC Bus". Question now SAT.</b>                                                                                                                                                           |
| 32 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 |                                                                                                                                                                                                                                                                                                                                                    |
| 33 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | M                 | E<br>S            | Need to specify in the stem that it is a tube-side leak, and not a shell-side leak. <b>Specified that it is a tube leak. Question now SAT.</b>                                                                                                                                                                                                     |
| 34 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | M                 | S                 |                                                                                                                                                                                                                                                                                                                                                    |
| 35 | F            | 2            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 |                                                                                                                                                                                                                                                                                                                                                    |
| 36 | H            | 3            | X                     |      |     |             |         |                      |         |         |       |                  |               | M                 | U<br>S            | This is too much like event 3 of scenario 1. While that has an APRM failing downscale, I think it gives away part 2 of the question on not being able to bypass two                                                                                                                                                                                |

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[illegible]

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| 51 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | E<br>S            | Free review. I am concerned that there is not enough information in the stem. From training material, "If the RHR "A" ADHRS MODE TRIP ENABLE handswitch is in the NORM position, the RHR A Pump will not trip since the "no suction path" interlock is not met (i.e., regardless of F008, F009, and F004A valve positions, with the ADHRS MODE TRIP ENABLE handswitch position contacts open and the F066A valve position contacts open, the K19A is NOT energized, therefore a pump trip does NOT occur due to the loss of suction flowpath)." <a href="#">Added that plant was initially operating at 100% power to lessen ambiguity about initial conditions. Question now SAT.</a> |
| 52 | H            | 4            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 53 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 | You could probably improve the reference section by including the reference material discussing F028A. <a href="#">Added a portion of E1181-41 to the standalone reference document. I can add to a new combined exam / reference document if needed (currently updating only the standalone exam file for configuration control purposes).</a>                                                                                                                                                                                                                                                                                                                                        |
| 54 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 55 | H            | 3            |                       |      |     | X           |         |                      |         |         |       |                  |               | B                 | U<br>S            | A and D are not plausible. Not plausible to believe you have RWCU blowdown or SDC in service at 100% power. <a href="#">Revised A and D. Question now SAT.</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 56 | F            | 2            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 57 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 58 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 | <a href="#">Prior 2 NRC Exams</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 59 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 60 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 61 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 | <a href="#">Prior 2 NRC Exams</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 62 | H            | 3            |                       |      |     | X           |         |                      |         |         |       |                  |               | B                 | U<br>S            | Do not find the cumulative collection of the other distractors to be credible since they are all calibrated at 1025 psig. A better approach to this question might be dealing with changes in reference or variable legs,                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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|    |              |              |                       |      |     |             |         |                      |         |         |       |                  |               |                   |                   | or something along that line. <a href="#">Re-wrote question as suggested.</a> <a href="#">Question now SAT.</a>                                                                                                                                                    |
| 63 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | E<br>S            | Should the stem be 4.5 mRem/h? The training material does not state >4.5, it states 4.5. <a href="#">Changed stem conditions to exactly match setpoints (4.5 mRem/hr and -41.6")</a> . <a href="#">Question now SAT.</a>                                           |
| 64 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 |                                                                                                                                                                                                                                                                    |
| 65 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 |                                                                                                                                                                                                                                                                    |
| 66 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 | Free review.                                                                                                                                                                                                                                                       |
| 67 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 |                                                                                                                                                                                                                                                                    |
| 68 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | E<br>S            | Would prefer one of the two safety limits were exceeded. Should be fundamental level of knowledge. Simply recalling values from tech specs. <a href="#">Revised to have one safety limit exceeded.</a> <a href="#">Reclassified cognitive level.</a>               |
| 69 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 |                                                                                                                                                                                                                                                                    |
| 70 | F            | 2            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 |                                                                                                                                                                                                                                                                    |
| 71 | H            | 4            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 | Question source should include bank number: B7717. <a href="#">Added bank number.</a>                                                                                                                                                                              |
| 72 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 |                                                                                                                                                                                                                                                                    |
| 73 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | E<br>S            | Might want to consider replacing this question. Though it does not overlap with question 74, both questions are testing how to reduce power spikes. <a href="#">Revised wording of choice D in #74.</a> <a href="#">Question now SAT.</a>                          |
| 74 | F            | 4            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 | Free review.                                                                                                                                                                                                                                                       |
| 75 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 | Combining two bank questions into one 2x2 question without any significant changes to the stem or answers of the original bank questions don't meet the criteria to be a modified question. This should be a bank. <a href="#">Re-classified as Bank question.</a> |
| 76 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  | X             | N                 | U<br>S            | Don't believe this to be RO level of knowledge. The original bank question was RO level of knowledge,                                                                                                                                                              |

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|----|--------------|--------------|-----------------------|------|-----|-------------|---------|----------------------|---------|---------|-------|------------------|---------------|-------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |              |              | Stem Focus            | Cues | T/F | Cred. Dist. | Partial | Job Link             | Minutia | #/Units | Logic | Q–K/A            | License Level |                   |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|    |              |              |                       |      |     |             |         |                      |         |         |       |                  |               |                   |                   | thus the only part of the new question that could be considered SRO would be the decision to lower MVARs. It should be RO level of knowledge to know the MVAR band. <a href="#">Resampled K/A and wrote new question.</a> <a href="#">Question now SAT.</a>                                                                                                                                                                                                                                                                                                         |
| 77 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | E<br>S            | Do not include as an embedded graphic, as you are cueing the correct answer is either B or D by stating it is the HCTL curve. Instead, include it with the attached references. <a href="#">Moved HCTL from being an embedded graphic to being a standalone provided reference.</a> <a href="#">Question now SAT.</a>                                                                                                                                                                                                                                               |
| 78 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | E<br>S            | Don't find D to be plausible, as the only parameter given in the stem (pressure) does not seem to be at a level to warrant a mini-ED. Additionally, A is the only distractor not mentioning a cooldown. Replace D with something not involving a cooldown. <a href="#">Revised wording in B and C slightly after discussion.</a> <a href="#">Question now SAT.</a>                                                                                                                                                                                                  |
| 79 | H            | 4            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 80 | F            | 2            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | E<br>S            | In each of the answer choices while discussing the specified order, capitalize IS and IS NOT. <a href="#">Capitalized IS and IS NOT in 2nd part of each answer choice.</a> <a href="#">Question now SAT.</a>                                                                                                                                                                                                                                                                                                                                                        |
| 81 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | E<br>S            | It is unclear how you have made the determination that the reactor will not remain subcritical under all conditions without boron. To transition to EP-2A, that is required in addition to more than one rod out. <a href="#">Good point – did need something to address last bullet in the TSG 3.10 inset in EP-2. Added that the 10 rods are clustered and adjacent. Now none of the TSG 3.10 inset conditions are met that allow an Operator to determine that the Reactor is shutdown under all conditions without boron.</a> <a href="#">Question now SAT.</a> |
| 82 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 | <a href="#">Prior two NRC exams.</a> See comments associated with Q30. <a href="#">Addressed Q30 comment, so no additional change needed here. Did revise to have 2 PACs initially running (based on Q2 comment).</a>                                                                                                                                                                                                                                                                                                                                               |
| 83 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 | Free review.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 84 | H            | 4            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 | Free review.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 85 | F            | 4            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 | Free review.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |



## Form 2.3-5 Written Examination Review Worksheet

| Q# | 1. LOK (F/H) | 2. LOD (1-5) | 3. Psychometric Flaws |      |     |             |         | 4. Job Content Flaws |         |         |       | 5. K/A Use Flaws |               | 6. Source (B/M/N) | 7. Status (U/E/S) | 8. Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----|--------------|--------------|-----------------------|------|-----|-------------|---------|----------------------|---------|---------|-------|------------------|---------------|-------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |              |              | Stem Focus            | Cues | T/F | Cred. Dist. | Partial | Job Link             | Minutia | #/Units | Logic | Q-K/A            | License Level |                   |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 86 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 | Free review.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 87 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 88 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 89 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 90 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 91 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 | Free review. Question is missing a level of difficulty. <a href="#">Added LOD rating.</a>                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 92 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 93 | F            | 4            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 94 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | E<br>S            | For distractors B and C, have one line discussing EP-2 and EP-3, and the second line discussing SAP-1 and SAP-2, similar to D. This makes the construction of the answer choices look better. (Example, C would be "Remain in EP-2 and exit EP-3" on one line, and "Enter SAP-2 and entry into SAP-1 is not required." <a href="#">Revised layout of B and C to combine EPs into first line and SAPs into second line (as much as possible due to wrapping based on length).</a> <a href="#">Question now SAT.</a> |
| 95 | F            | 4            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | E<br>S            | I don't like that shift manager is in three distractors and would prefer control room supervisor be used instead of operations manager. Maybe SM only, CRS only, SM and chemistry, CRS and chemistry? <a href="#">Revised D to get rid of having SM in 3 choices.</a> <a href="#">Question now SAT.</a>                                                                                                                                                                                                            |
| 96 | F            | 2            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | E<br>S            | The correct answer seems too obvious to me. Try to find something a little less obvious. <a href="#">Replaced choice A.</a> <a href="#">Question now SAT.</a>                                                                                                                                                                                                                                                                                                                                                      |
| 97 | H            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 98 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | B                 | S                 | In the question pedigree, please include a screenshot from the bases document describing the reason for the limit. <a href="#">Added a portion of TS 3.4.8 bases to the standalone reference document.</a> <a href="#">I can add to a new combined exam / reference document if needed</a>                                                                                                                                                                                                                         |

## Form 2.3-5 Written Examination Review Worksheet

| Q#  | 1. LOK (F/H) | 2. LOD (1–5) | 3. Psychometric Flaws |      |     |             |         | 4. Job Content Flaws |         |         |       | 5. K/A Use Flaws |               | 6. Source (B/M/N) | 7. Status (U/E/S) | 8. Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----|--------------|--------------|-----------------------|------|-----|-------------|---------|----------------------|---------|---------|-------|------------------|---------------|-------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |              |              | Stem Focus            | Cues | T/F | Cred. Dist. | Partial | Job Link             | Minutia | #/Units | Logic | Q–K/A            | License Level |                   |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|     |              |              |                       |      |     |             |         |                      |         |         |       |                  |               |                   |                   | (currently updating only the standalone exam file for configuration control purposes)..                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 99  | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  | X             | N                 | U<br>S            | I think it is RO level of knowledge to know how long a night order is good for. A better approach would be to have some degraded operational condition and ask what is required: night order, standing order, procedure change, temp change. Revised question to make the student choose which type of order is required for a situation and who must approve. Ended up avoiding options like procedure change / temp change because it was leading to the need for a lot of information in the stem and seemed to be opening question up to challenges. Question now SAT. |
| 100 | F            | 3            |                       |      |     |             |         |                      |         |         |       |                  |               | N                 | E                 | I don't like that (1) is in 3 distractors, and that it's not correct. I would also replace (1) with movement of SRMs. They are also in the vessel. Revised (1) as suggested. Revised answer choices A and B such that (1) is in fewer distractors. Question now SAT.                                                                                                                                                                                                                                                                                                       |

## Form 2.3-5 Written Examination Review Worksheet

### Form 2.3-5 Instructions for Written Examination Review Worksheet

Refer to ES-4.2 for the definitions of terms used in this worksheet for the written examination. Review each question (Q) as submitted and as subsequently revised and document the following in the associated worksheet columns:

1. Enter the level of knowledge (LOK) as either (F)undamental or (H)igher cognitive level.
2. Enter the level of difficulty (LOD) from 1 (easy) to 5 (difficult); mark direct lookup questions (applicant can directly determine the answer from the provided reference) as LOD 1. A question is (U)nsatisfactory if it is LOD 1 or LOD 5.
3. Check the appropriate box if a psychometric flaw is identified:
  - “Stem Focus”: The stem lacks enough focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information). This is an (U)nsatisfactory question.
  - “Cues”: The stem or one or more answer choices contains cues (e.g., clues, specific determiners, phrasing, length). This is an (U)nsatisfactory question.
  - “T/F”: All of the answer choices are a collection of unrelated true/false statements. This is an (U)nsatisfactory question.
  - “Cred. Dist.”: The distractors are not credible; single implausible distractors require (E)nhancement, and more than one noncredible distractor in the same question results in an (U)satisfactory question.
  - “Partial”: One or more distractors are partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by the stem). This is an (U)nsatisfactory question.
4. Check the appropriate box if a job content flaw is identified:
  - “Job Link”: The question is not linked to the job requirements (i.e., the question has a valid knowledge or ability (K/A) but, as written, is not operational in content). This is an (U)nsatisfactory question.
  - “Minutia”: The question requires the recall of knowledge that is too specific for the closed-reference test mode (i.e., it is not required to be known from memory). This is an (U)nsatisfactory question.
  - “#/Units”: The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons). This is an (U)nsatisfactory question.
  - “Logic”: The question requires backward or reverse logic or application compared to the job requirements. This is an (U)nsatisfactory question.
5. Check the first box if a K/A mismatch flaw exists. Check the second box if the question is flawed because it is written at the wrong license level. Either condition results in an (U)nsatisfactory question.
6. Enter the question's source: (B)ank, (M)odified, or (N)ew. Verify that (M)odified questions meet the criteria of ES-4.2.
7. Based on the review performed in steps 2–5, mark the question as (U)nsatisfactory, in need of (E)nhancement, or (S)atisfactory.
8. Fully explain the reason for any (U) in column 7 (e.g., how the psychometric attributes are not being met).
9. Save the initial review comments and detail subsequent comment resolution so that each exam-bound question is marked by an (S) on this form.