

DC COOK 2012 PROPOSED INITIAL EXAM REVIEW

| Q# | 1. LOK (F/H) | 2. LOD (1-5) | 3. Psychometric Flaws |      |     |             |         | 4. Job Content Flaws |         |         |          | 5. Other |          | 6. B/M/N | 7. U/E/S | 8. Explanation |   |
|----|--------------|--------------|-----------------------|------|-----|-------------|---------|----------------------|---------|---------|----------|----------|----------|----------|----------|----------------|---|
|    |              |              | Stem Focus            | Cues | T/F | Cred. Dist. | Partial | Job-Link             | Minutia | #/units | Backward | Q=K/A    | SRO Only |          |          |                |   |
| 1* | H            | 2            |                       |      |     | X           |         |                      |         |         |          |          | Y        | N/A      | B        | E              | Distractor D is not plausible. Stem states all rods out and distractor D says to "withdraw control rods".<br>Need to change the stem to state power change was completed 3 hours ago to make distractor B more plausible.<br>Not sure A is plausible. Why would anybody want to scram???<br>Question enhanced with recommended changes. The distractor to scram was replaced with insert control rods to 95%. |
| 2* | H            | 2            |                       |      |     | X           |         |                      |         |         |          |          | X<br>Y   | N/A      | N        | E              | Distractor C should be "...at least 2 hours" instead of "DC loads for only 3 hours."<br>KA is effect of battery discharge rate on capacity. Not sure this meets that KA<br>Question enhanced with recommended changes. The stem was altered to ask a specific question regarding battery design. The distractor with 3 hours in it was changed to 2 hours and 8 hours was also added.                         |
| 3* | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | S              | Is this the same question as number 2? I think the same knowledge is required to answer both questions. Double jeopardy?<br>Not sure this meets KA for "Knowledge of the interrelations between PARTIAL OR COMPLETE LOSS OF D.C. POWER and the following: <b>Battery charger</b> " when / how is DC power lost?<br>Question is not the same as Q#2. Question meets KA.  |
| 4  | H            | 2            |                       |      |     | X           |         |                      |         |         |          |          | Y        | N/A      | B        | U              | Distractors C & D are not plausible. Nobody would determine that phase to phase fault would occur or that a phase to ground fault would occur because the field bkr opened.<br>Undervoltage or overvoltage would be better distractors<br>Distractors C & D were replaced. Question is now satisfactory.  |
| 5  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | U              | LOD = 1 This question does not discriminate between the competent and less than competent operator.<br>Question replaced. Question is now satisfactory.   |

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|-----|--------------|--------------|-----------------------|------|-----|-------------|---------|----------------------|---------|---------|----------|----------|----------|----------|----------|----------------|--|
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| 6   | H            | 2            |                       |      |     | X           |         |                      |         |         |          |          | Y        | N/A      | N        | E              | Distractor A should be changed to opening two circuit breakers to de-energize two test cabinets. Unless only one will cause a scram.<br>Distractor B should be changed to generator field breaker because opening the generator output breaker under load is not very plausible.<br>Need to CAPITALIZE preferred in stem.<br>Question enhanced with recommended changes.   |
| 7   | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | E              | May want to increase lod by asking when low pressure alarm comes in.<br>Question enhanced by changing distractor C.  |
| 8*  | H            | 2            |                       |      |     | X           |         |                      |         |         |          |          | Y        | N/A      | N        | S              | What specific components in the RBHVAC system are supplied with IA??? If fan discharge dampers are, then put that in the distractors. For example C. isolated due to loss of Station Air to discharge dampers or inlet damper.<br>D. not in service due to fan trip as a result of discharge dampers failing closed.<br>Comments were not incorporated into this question. The question satisfactory as written. |
| 9*  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | E              | Is distractor B also a correct answer? The bleed and feed strategy utilizes the SBFW pump and RWCU could be used to control level lower. Comment was not incorporated into this question because level is not lowered to prevent a trip of the SBFW pump.<br>Do we need to change the stem to ask "what is the primary reason for these actions?"<br>Stem enhanced to include "primary reason"                   |
| 10* | F(H)         | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | E              | Change distractors with 00:15 to 00:00. It makes distractors more plausible. You don't want the interlock to kick in when you are trying to remove a fuel bundle it should be there before you go to move it.<br>Is this an RO task at Fermi? Yes<br>Question enhanced with recommended changes.   |
| 11  | H            | 2            |                       |      |     | X           |         |                      |         |         |          |          | Y        | N/A      | N        | E              | Change distractor D to place RHR in torus cooling and start another drywell cooling unit? Delete reference to spraying drywell and torus<br>Question enhanced with recommended changes.  |

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| 12  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |   |
| 13  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | S              | Why are distractors A & D plausible? If you look at either graph vortex or HPSH correctly you get 7000gpm for CS pumps so why is anybody going to pick anything other than B or C???<br>Have to read both graphs correctly to determine 7000gpm therefore question is satisfactory. |
| 14  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | E              | Need better explanations as to why distractors A & B are plausible.<br>Changed distractor B to something more plausible, we changed it to "Maintains temperature below Drywell Temperature LCO limits".<br>Distractor A was plausible.  |
| 15* | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | E              | Change distractor B to RCIC will be manually TRIPPED due to Low Cooling Water Flow.<br>Question enhanced with recommended changes   |
| 16* | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | S              |   |
| 17* | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |   |
| 18  | F(H)         | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | S              |   |
| 19  | F            | 2            |                       |      |     | X           |         |                      |         |         |          |          | Y        | N/A      | B        | E              | The stem states that the 2A transformer has a Deluge System so why is distractor A plausible?<br>Replace "Deluge" with "Fire Protection" in stem.<br>Question enhanced with recommended changes.  |
| 20  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | S              |   |
| 21  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |   |
| 22* | H            | 2            |                       |      |     | X           |         |                      |         |         |          |          | Y        | N/A      | B        | E              | Distractor A or C should be changed to "Open E4150-F006,HPCI Pump Discharge Outboard Isolation Valve."<br>Question enhanced with recommended changes and distractors were reordered.  |
| 23* | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |   |
| 24* | F(H)         | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |   |

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| 25  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |   |
| 26  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | S              |   |
| 27  | H            | 2            |                       |      |     | X           |         |                      |         |         |          |          | Y        | N/A      | N        | E              | The question is "Which of the following is a potential concern for this condition?" May need to modify this because one could argue that distractors B is also correct. Distractor B is a true statement and is a <b>concern</b> although be it to a lesser effect than D.<br><br>Question was altered to ask for "primary reason" thus eliminating distractor B and a correct answer.  |
| 28  | F            | 4<br>2       |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | U              | LOD = 1 This question does not discriminate between the competent and less than competent operator.<br>Need better explanations as to why distractors A & C are plausible.<br>Question enhanced with better distractors.  |
| 29  | F            | 4<br>2       |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | U              | LOD = 1 This question does not discriminate between the competent and less than competent operator.<br>This question asks what cools the RHR Hx.<br>Question was replaced with a satisfactory one.  |
| 30  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | E              | Why is distractor A plausible? An ESF actuation starts a HP ECCS injection pump and it doesn't do anything and immediately tripped? Nobody would pick this answer.<br>The stem does not contain enough information to answer question.<br>How high / low is RPV pressure?<br>Was actuation signal inadvertent?<br>How big is leak? Are other pumps running? What is level doing? I wouldn't throttle flow until I knew where level was.<br>Question enhanced to address the above comments. |
| 31* | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |   |
| 32* | F            | 4<br>2       |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | U              | LOD = 1<br>Question was replaced.   |
| 33* | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |   |
| 34  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |   |

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| 35  | F(H)         | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |   |
| 36  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | M        | U              | Question does not meets KA<br>Question asks APRM conditions to get a scram that do not deal with reactor power. K/A asks how to monitor/operate – Reactor Power<br><b>Question was replaced.</b>  |
| 37  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | E              | Does the stem contain enough information to correctly answer this question? distractors c should be changed.<br><b>Distractor C changed to pull control rods.</b>   |
| 38  | H(F)         | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | E              | <b>Distractor B changed to 'Rod motion is blocked'.</b>   |
| 39  | H            | 2            |                       |      |     | X           |         |                      |         |         |          |          | Y        | N/A      | N        | E              | Distractor D is not plausible. A single RPS power supply failure shouldn't cause a trip per design. Yes an RO needs to know that but single failure design criteria and single point vulnerabilities should be known by the majority of plant personnel. To easily eliminated as an answer.<br>Replace with "Simulated Thermal Power output fails low or no longer reads accurately."<br><b>Question enhanced with recommended changes.</b> |
| 40* | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |   |
| 41* | H(F)         | 2            |                       |      |     | X           |         |                      |         |         |          |          | Y        | N/A      | B        | E              | Distractor C is not plausible with a SBO. Replace with B5b equipment or some other diesel driven pump. Fire pump???<br><b>Question enhanced with recommended changes.</b>   |
| 42* | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | S              |   |
| 43  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |   |
| 44  | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | E              | Add "ONLY" to distractors B & C<br><b>Question enhanced with recommended changes.</b>   |

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| 45  | H            | 2            | X                     |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | E              | Change stem such that the applicants have to determine which way level is going to go following the SRV opening. Don't tell them it is going to lower make them figure that out. Stem should read During normal power operation an SRV fails open. How does Feed Water Level Control respond to maintain RPV water level until the SRV is closed?<br>Distractor D should also be changed from "Feedwater flow lowers to match actual steam flow." to "Feedwater flow rises to match actual steam flow."<br><b>Question enhanced with recommended changes.</b> |
| 46  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | E              | Change distractors C & D to be more symmetrical. C should read..."Take manual control of RFP A, and control speed."<br>D should read "Take manual control of RFP B and control speed."<br><b>Question enhanced with recommended changes.</b>  |
| 47  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |   |
| 48  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | E              | Switch the first two bullets in the stem... put breaker 1B first then 1C<br><b>Question enhanced with recommended changes.</b>  |
| 49* | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |   |
| 50* | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |   |
| 51* | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | E              | Change distractor D to just read "RBCCW is not affected" do not need to tell them anything about bus 72C.<br><b>Question enhanced with recommended changes.</b>   |
| 52  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |   |
| 53  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |   |
| 54  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | E<br>S         | When wouldn't distractor C be correct following this alarm??? Need to change distractor C to make sure it is wrong answer. Consider changing distractor B to "Stop any control rod movements in progress per 20.106.08"<br><b>Licensee informed me that a reactor scram is not the correct action based on conditions provided in the stem. Question is satisfactory.</b>   |
| 55  | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | E              | Change distractor B to 12% instead of 27%<br><b>Question enhanced with recommended changes.</b>   |

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| 56  | F(H)         | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | S              |  |
| 57  | H(F)         | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |  |
| 58* | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |  |
| 59* | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              | <p>I think that there is more than one correct answer. What rules out that a level indication problem is occurring??? Why isn't distractor C also a correct answer??? If leak is in reference leg wouldn't starting the backfill pump correct the problem? Explain why the correct answer is the only correct answer based on information contained in stem.</p> <p>Licensee informed me that the backfill system is out of service in Mode 3 and thus can't be used therefore distractor C is not a correct answer. Question is satisfactory.</p> |
| 60* | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |  |
| 61  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | E              | <p>Distractor D is not plausible. D does not answer the question. Need to replace distractor D. Change stem to delete 'Main and Reheat Steam' and replace with 'the feedwater heating systems'. The stem focus's attention on the main and reheat steam system, but only two of the distractors are related to reheat steam and one of them is the correct answer.</p> <p>Question enhanced with recommended changes.</p>  |
| 62  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |  |
| 63  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | E              | <p>Replace distractor D with "determine off gas oxygen concentration". I don't think the original distractor D was very good.</p> <p>Question enhanced with recommended changes.</p>   |
| 64  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | E              | <p>Don't like distractor D doesn't seem plausible that if you lose one bus no fire pumps are available.</p> <p>Question enhanced. Stem reworded and distractors enhanced to address above concern.</p>   |
| 65  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |  |

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| 66  | F            | 1<br>2       |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | U              | LOD = 1<br>Distractor A doesn't make sense to me. The electrical impacts would apply to the MCR operators the same guys making the announcement??? Change distractor A to "Alert personnel in the field to changing radiological conditions".<br>Why is distractor D wrong???<br>Question replaced with a satisfactory one.         |
| 67* | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | S              |   |
| 68* | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | S              |   |
| 69* | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | S              |   |
| 70  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | S              | Is this question very similar to SRO question #80???<br>Question replaced with a different question because it was very similar to SRO question #80.  |
| 71  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | E              | Change distractor D to "increase range to X10 so that meter is indicating closer to 100 cpm"<br>Question enhanced with recommended changes.   |
| 72  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | S              |   |
| 73  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | B        | S              |   |
| 74  | F            | 4<br>2       |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | U              | LOD = 1 Does an RO need to know this???<br>Changed question to increase LOD.  |
| 75  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N/A      | N        | E              | Distractor A is not plausible. Stem states you are in the SAGs and A says to continue in EOPs. Same comment for distractor C. they should state to continue in SAGs and enter EOPs concurrently.<br>Is this RO knowledge???<br>Licensee insists that this is RO knowledge. Stem enhanced to state SAGs are continually implemented. |
|     |              |              |                       |      |     |             |         |                      |         |         |          |          |          |          |          |                |   |

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| 1(76)* | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N        | N        | U              | <p>Not an SRO only question. If the applicant knows a bus fault occurred why wouldn't he enter the bus fault procedure. Only system knowledge required to answer question.</p> <p>Ask "What caused this event to occur?" bus fault (OC or over voltage or something like that).</p> <p>Question enhanced with recommended changes. Changed question to make it SRO only. Question has now been made satisfactory.</p>   |
| 2(77)* | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | N        | S              |   |
| 3(78)* | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | N        | S              | <p>Need an explanation of why B is the correct answer. When I read the reference procedure provided it doesn't say to trip turbine until one vibration reading is &gt; 15 mils. Procedure says the turbine will trip if two adjacent bearing exceed their setpoints. Show me where it procedures direct the operator to trip base on conditions stated in stem.</p> <p>Licensee informed me that I was not following the procedures correctly regarding the turbine trip criteria. Question is satisfactory as written.</p> |
| 4(79)  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | N        | N        | N        | U              | <p>This is not an SRO only question. System knowledge of what it takes for the UHS to be operable is what is being asked. RO knowledge.</p> <p>Doesn't meet KA. KA states "Partial or Total Loss of CCW: <b>Knowledge of the bases in Technical Specifications...</b>" A loss of CCW is not mentioned / considered.</p> <p>Question replaced. Question has now been made satisfactory.</p>  |
| 5(80)  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | N        | S              | <p>This is the same question as RO #70. Need to change stem to have a different answer or outcome.</p> <p>Changed RO question #70.</p>  |
| 6(81)  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | N        | S              |   |

| Q#      | 1. LOK (F/H) | 2. LOD (1-5) | 3. Psychometric Flaws |      |     |             |         | 4. Job Content Flaws |         |         |          | 5. Other |          | 6. B/M/N | 7. U/E/S | 8. Explanation |  |
|---------|--------------|--------------|-----------------------|------|-----|-------------|---------|----------------------|---------|---------|----------|----------|----------|----------|----------|----------------|--|
|         |              |              | Stem Focus            | Cues | T/F | Cred. Dist. | Partial | Job-Link             | Minutia | #/units | Backward | Q=K/A    | SRO Only |          |          |                |  |
| 7(82)   | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N        | N        | U              | <p>Only RO knowledge required to answer this question. System knowledge and knowledge to take action if automatic action didn't occur is the only knowledge needed to answer question. RO are required to know that they should take action if auto didn't work.</p> <p>No correct answer. The question asks for actions that MUST be taken. The answer explanation states that isolating RWCU is the ONLY action that MUST be taken. Reword the question or correctly answer the question. The other things can't be part of the answer since they are not "MUST" items.</p> <p>Question changed to correct problems identified. The question was changed by adding selection of the correct procedure for followup actions. Question has now been made satisfactory.</p> |
| 8(83)   | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | N        | E              | <p>During an ATWS when wouldn't inject SLC be the correct thing to do. A second distractor should be inject SLC with the wrong bases.</p> <p>Question enhanced with recommended changes. Question has now been made satisfactory.</p>  |
| 9(84)   | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | N        | E              | <p>One of the distractor should be No, perform 29.100.01A, RPV CONTROL - ATWS, and perform 29.100.01 Sheet 1, RPV CONTROL unless FSQ 1-8 is the same thing as the ATWS procedure.</p> <p>Question enhanced with recommended changes. Question has now been made satisfactory.</p>  |
| 10(85)* | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | N        | E              | <p>Rad level should be 3.4R/hr. Distractor B should have the following added to it "and enter 29.100.01 SH 5, "Secondary Containment and Rad Release" so that it matches distractor D.</p> <p>Question enhanced, distractor could not be changed to 3.4R/Hr because rad monitor doesn't read that high. Distractor B enhanced.</p>   |
| 11(86)* | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | N        | E              | <p>No correct answer. B is not the correct answer.</p> <p>Bases says "Prevention and mitigation of prompt reactivity excursions during refueling and low power operation is provided by LCO 3.9.1" which isn't 3.3.1.2. 3.3.1.2 bases also says "However, the SRMs provide the only on scale monitoring of neutron flux levels during startup and refueling. Therefore, they are being retained in Technical Specifications."</p> <p>The first part of this question is also wrong because with two SRMs inop in mode 3 there is a one hour action. In mode 2 the action is 4 hours.</p> <p>Question had the wrong distractor as the answer. The correct answer is distractor A. No changes needed to the question.</p>  |

| Q#      | 1. LOK (F/H) | 2. LOD (1-5) | 3. Psychometric Flaws |      |     |             |         | 4. Job Content Flaws |         |         |          | 5. Other |          | 6. B/M/N | 7. U/E/S | 8. Explanation |  |
|---------|--------------|--------------|-----------------------|------|-----|-------------|---------|----------------------|---------|---------|----------|----------|----------|----------|----------|----------------|--|
|         |              |              | Stem Focus            | Cues | T/F | Cred. Dist. | Partial | Job-Link             | Minutia | #/units | Backward | Q=K/A    | SRO Only |          |          |                |  |
| 12(87)* | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | Y        | N        | N        | U              | <p>Only system knowledge is required to answer this question. May be able to fix it if question is what procedure is entered next.</p> <p>On hydraulic actuator is the supply line plugged or return line plugged??? If return line is plugged oil pressure to actuator may be maintained. Stem should contain more specific information regarding the nature of the failure. For example over time a oil leak with no operator action will result in loss of oil pressure to valve.</p> <p>Added an SRO procedure selection to correct this question and make it SRO only. Fermi believes that "pathway to the actuator" refers to the supply line for the actuator. Question has now been made satisfactory.</p> |
| 13(88)  | F            |              |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | N        | E              | <p>Distractors A &amp; B need to be enhanced to be better distractors. A should be "To ensure that an adequate heat sink exists during a design base LOCA. B should be "To ensure an adequate heat sink exists during Emergency Depressurization event.</p> <p>Question enhanced with recommended changes.</p>   |
| 14(89)  | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | N        | E              | <p>The second part of the question should be "which procedure should be entered". An RO should know the difference between an OPEN SRV and leaking SRV and what action to take.</p> <p>Need explanation as to why temp should be 370F for conditions specified??? I think temp should be approx. 285F.</p> <p>Licensee explained that the SRV is only leaking so ambient losses need to be factored into the answer and that is why tailpipe temp is only 230F if SRV was OPEN temp would be 285F. Question stem enhanced to ask for "what procedural actions should be directed".</p>   |
| 15(90)  | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | B        | U              | <p>Not an SRO question. The first part of the question is answered with system knowledge. The second half of the question is for the individual to recognize an EOP entry condition – also an RO task.</p> <p>Question enhanced with recommended changes. Question has now been made satisfactory.</p>   |
| 16(91)  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | N        | S              |  |

| Q#      | 1. LOK (F/H) | 2. LOD (1-5) | 3. Psychometric Flaws |      |     |             |         | 4. Job Content Flaws |         |         |          | 5. Other |          | 6. B/M/N | 7. U/E/S | 8. Explanation |   |
|---------|--------------|--------------|-----------------------|------|-----|-------------|---------|----------------------|---------|---------|----------|----------|----------|----------|----------|----------------|---|
|         |              |              | Stem Focus            | Cues | T/F | Cred. Dist. | Partial | Job-Link             | Minutia | #/units | Backward | Q=K/A    | SRO Only |          |          |                |   |
| 17(92)  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | N        | U              | Is this system level knowledge??? Should RO know this action???<br>The first part of the question can be answered with RO knowledge. Since it only appears once, the question can be answered with RO knowledge. Not an SRO Only question.<br><b>Question changed such that distractor A is now both pump trip and distractor D is now both pumps are running. Question has now been made satisfactory.</b>                     |
| 18(93)  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N        | N        | U              | System knowledge can be used to answer this question. SRO level of knowledge not required. Not SRO only I would expect an RO to diagnose this problem and know what action to take to mitigate it.<br><b>Question distractors have been changed to incorporate procedure references and distractor C was enhance by changing part 1 to "both RFP minimum flow valves failed OPEN". Question has now been made satisfactory.</b> |
| 19(94)* | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | N        | U              | LOD = 1 Does not discriminate between the competent and less than competent SRO.<br><b>Question replaced.</b>   |
| 20(95)* | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | B        | U              | Change distractor A or B to hours 4 on Friday. Knowledge of work hour rules is not strictly an SRO function. ROs and NLOs should also know these limits shouldn't they??? Explain why this is an SRO only question.<br><b>Question replaced.</b>  |
| 21(96)* | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | B        | S              |   |
| 22(97)  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | N        | N        | E              | <b>Question enhanced by changing distractors.</b>   |
| 23(98)  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | B        | S              |   |
| 24(99)  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | B        | S              |   |
| 25(100) | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | Y        | Y        | B        | S              |   |
|         |              |              |                       |      |     |             |         |                      |         |         |          |          |          |          |          |                |   |

Instructions

[Refer to Section D of ES-401 and Appendix B for additional information regarding each of the following concepts.]

1. Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
2. Enter the level of difficulty (LOD) of each question using a 1 – 5 (easy – difficult) rating scale (questions in the 2 – 4 range are acceptable).
3. Check the appropriate box if a psychometric flaw is identified:
  - The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
  - The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).
  - The answer choices are a collection of unrelated true/false statements.
  - The distractors are not credible; single implausible distractors should be repaired, more than one is unacceptable.
  - One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).
4. Check the appropriate box if a job content error is identified:
  - The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).
  - 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).
  - The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
  - The question requires reverse logic or application compared to the job requirements.
5. Check questions that are sampled for conformance with the approved K/A and those that are *designated SRO-only* (K/A and license level mismatches are unacceptable).
6. Enter question source: (B)ank, (M)odified, or (N)ew. Check that (M)odified questions meet criteria of ES-401 Section D.2.f.
7. Based on the reviewer’s judgment, is the question as written (U)nsatisfactory (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
8. At a minimum, explain any “U” ratings (e.g., how the Appendix B psychometric attributes are not being met).

**\* Designates the questions reviewed to meet requirement of ES-401.E.2.c. (100% of questions were reviewed by Chief Examiner)**

RO Bank                    26 / 75 = 35%  
 RO Modified              1 / 75 = 1%  
 RO New                    48 / 75 = 64%

SRO Bank                6 / 25 = 24%  
 SRO Modified          0 / 25 = 0%  
 SRO New                19 / 25 = 76%

RO Memory              32 / 75 = 43%  
 RO C/A                    43 / 75 = 57%

SRO Memory            2 / 25 = 8%  
 SRO C/A                 23 / 25 = 92%

|                 |                  |                  |                 |
|-----------------|------------------|------------------|-----------------|
| RO Unsat        | $8 / 75 = 11\%$  | SRO Unsat        | $9 / 25 = 36\%$ |
| RO Enhancement  | $28 / 75 = 37\%$ | SRO Enhancement  | $7 / 25 = 28\%$ |
| RO Satisfactory | $39 / 75 = 52\%$ | SRO Satisfactory | $9 / 25 = 36\%$ |