

ES-401

Form ES-401-9

FACILITY: Diablo Canyon  
 EXAM DATE: October 2002

CHIEF EXAMINER: G. Johnston  
 REVIEWER: G. Werner

\* Indicates part of initial sample

Note: On pages 1 - 5 Questions 1 - 71 are both RO/SRO, Questions 72 - 100 are RO only.  
 On pages 6 & 7 Questions 72 - 100 are SRO only.

| Q#  | 1. LOK (F/H) | 2. LOD (1-5) | 3. Psychometric Flaws |      |     |             |         | 4. Job Content Flaws |         |         |          | 5. Other |          | 6. U/E/S | 7. Explanation |  |
|-----|--------------|--------------|-----------------------|------|-----|-------------|---------|----------------------|---------|---------|----------|----------|----------|----------|----------------|--|
|     |              |              | Stem Focus            | Cues | T/F | Cred. Dist. | Partial | Job-Link             | Minutia | #/units | Backward | Q=K/A    | SRO Only |          |                |  |
| 1*  | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 2*  | F            | 2            |                       | X    |     |             |         |                      |         |         |          |          | OK       |          | E              | Answer D is longer than the other distractors and the other 3 answers are dissimilar from Answer D. In addition, Answer C is too close to being correct - "...DRW is highest at approx the bank's 40% withdrawn position." |
| 3   | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              | Could not verify answer. Correct answer does not make total sense. Need to verify with licensee.   |
| 4   | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 5   | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 6*  | H            | 2            |                       |      |     | X           |         |                      |         |         |          |          | OK       |          | U              | Answers B and D are not credible distractors.  |
| 7*  | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 8   | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 9   | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 10  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 11* | F            | 1            |                       |      |     |             |         | X                    |         |         |          |          | OK       |          | U              | Anyone knowing how to use steam tables could arrive at the correct answer and the question has low discriminatory value.   |
| 12  | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 13  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 14  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 15  | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 16  | F            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 17  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 18  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |

| Q#  | 1. LOK (F/H) | 2. LOD (1-5) | 3. Psychometric Flaws |      |     |             |         | 4. Job Content Flaws |         |         |          | 5. Other |          | 6. U/E/S | 7. Explanation |  |
|-----|--------------|--------------|-----------------------|------|-----|-------------|---------|----------------------|---------|---------|----------|----------|----------|----------|----------------|--|
|     |              |              | Stem Focus            | Cues | T/F | Cred. Dist. | Partial | Job-Link             | Minutia | #/units | Backward | Q=K/A    | SRO Only |          |                |  |
| 19* | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 20* | F            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 21  | F            | 1            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | U              | Low discrimination value. Although some analysis is needed - it is of fundamental level below site specific knowledge.   |
| 22  | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 23  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 24* | F            | 2            |                       |      |     | X           |         |                      |         |         |          |          | OK       |          | E              | Answer B is not plausible and not consistent with other answers - "high." Would be better to say "high pressure ....."   |
| 25  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 26  | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 27  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 28  | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 29* | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 30  |              |              |                       |      |     |             |         |                      |         |         |          |          |          |          |                |  |
| 31* | F            |              |                       |      |     | X           |         |                      |         |         |          |          | OK       |          | E              | Discussing "designed" in the stem, but Answers C and D are not related to design, would be related more to reason. May need to modify question to include purpose of safety valves and discuss "reason" in the answer.   |
| 32* | H            | 3            |                       |      |     |             |         | X                    |         |         |          |          | No       |          | E              | Not clear how this question ties to RO/SRO duties. The engineering and maint console is located in the cable spread room. Isn't the K/A asking about auto operation of SG level control. This question deals with display of an alarm panel and not impact on auto operation or level. |
| 33  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 34  | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 35  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 36  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 37  | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 38  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |

| Q#  | 1. LOK (F/H) | 2. LOD (1-5) | 3. Psychometric Flaws |      |     |             |         | 4. Job Content Flaws |         |         |          | 5. Other |          | 6. U/E/S | 7. Explanation |   |
|-----|--------------|--------------|-----------------------|------|-----|-------------|---------|----------------------|---------|---------|----------|----------|----------|----------|----------------|---|
|     |              |              | Stem Focus            | Cues | T/F | Cred. Dist. | Partial | Job-Link             | Minutia | #/units | Backward | Q=K/A    | SRO Only |          |                |   |
| 39  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |   |
| 40  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |   |
| 41* | H            | 3            |                       |      |     | X           |         |                      |         |         |          |          | OK       |          | U              | Answer C and D are not a plausible distractor because the stem does not specify that FR-20 (avg flowrate) is inoperable.  |
| 42* | H            | 4            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | E              | Is the event classification something an RO or SRO should know from memory?   |
| 43  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |   |
| 44* | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |   |
| 45  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              | AP-15 Caution statement has an action statement in a caution, this may be a violation of the DCPD writers guide.  |
| 46  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | E              | Question should read "Which of the following automatic action would occur?"   |
| 47* | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |   |
| 48* | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |   |
| 49  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |   |
| 50* | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |   |
| 51* | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |   |
| 52  |              |              |                       |      |     |             |         |                      |         |         |          |          |          |          |                |   |
| 53* | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | E              | The distractors don't appear to be plausible. What other fuel building rad monitors are there? If you weren't sure of the answer, you could simply pick "RM-59, New Fuel Storage Area monitor," because this is the only rad monitor associated with the fuel building. |
| 54  | H            | 4            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |   |
| 55* | F            | 2            |                       |      |     | X           |         |                      |         |         |          |          | OK       |          | U              | None of the distractors are credible distractors. Discussed with Don Bearden - he agreed.   |
| 56  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |   |
| 57* | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              | Recommend modifying Answer C to include "heat up RCS above low Tavp Setpoint" to make C and D consistent in length.   |
| 58* | H            | 2            |                       |      |     | X           |         |                      |         |         |          |          | OK       |          | U              | Answers B, C, and D are NOT credible distractors!!!!!! Discussed with Don Bearden - will modify distractors.  |

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|     |              |              | Stem Focus            | Cues | T/F | Cred. Dist. | Partial | Job-Link             | Minutia | #/units | Backward | Q=K/A    | SRO Only |          |                |  |
| 59* | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 60  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 61  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 62  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 63  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 64  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 65  | F            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 66  | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 67  | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 68  | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 69* | F            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 70  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 71* | F            |              |                       |      |     |             |         |                      | X       | X       |          |          | OK       |          |                | Does this question have a direct/important relationship to perform the job? What is the point of the question?   |
| 72  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 73  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 74  | F            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 75* | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       | X        | E              | Clearly an SRO only question per 55.43(b)(5) - selection of appropriate emergency operating procedure. Reword the question to get rid of "terminus". Change the question for the candidates to determine - "loss of heat sink" and not selection of procedure. |
| 76  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 77  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 78  | H            | 2            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |
| 79  | H            | 3            |                       |      |     |             |         |                      |         |         |          |          | OK       |          | S              |  |



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|----|--------------|--------------|-----------------------|------|-----|-------------|---------|----------------------|---------|---------|----------|----------|----------|----------|--|--|
|    |              |              | Stem Focus            | Cues | T/F | Cred. Dist. | Partial | Job-Link             | Minutia | #/units | Backward | Q=K/A    | SRO Only |          |  |  |
|    |              |              |                       |      |     |             |         |                      |         |         |          |          |          |          |  |  |
| 72 | H            | 2            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 73 | H            | 2            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 74 | F            | 2            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 75 | H            | 2            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 76 | F            | 2            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 77 | H            | 3            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 78 | H            | 3            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 79 | F            | 2            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 80 | F            | 3            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 81 | F            | 2            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 82 | H            | 3            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 83 | H            | 3            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 84 | H            | 3            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 85 | H            | 2            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 86 | H            | 3            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 87 | H            | 2            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 88 | F            | 3            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 89 | H            | 3            |                       | X    |     | X           |         |                      |         |         |          | OK       | ✓        | U        | RECOMMEND DISTRACTOR 'D' READ: "REACTIVITY INCREASED THROUGHOUT...." |  |
| 90 | F            | 2            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 91 | F            | 2            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 92 | F            | 2            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 93 | F            | 3            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |
| 94 | F            | 2            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |  |

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|-----|--------------|--------------|-----------------------|------|-----|-------------|---------|----------------------|---------|---------|----------|----------|----------|----------|--|
|     |              |              | Stem Focus            | Cues | T/F | Cred. Dist. | Partial | Job-Link             | Minutia | #/units | Backward | Q=K/A    | SRO Only |          |  |
| 95  | H            | 3            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |
| 96  | H            | 3            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |
| 97  | F            | 3            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |
| 98  | H            | 3            |                       |      |     | X           |         |                      |         |         |          | OK       | ✓        | E        | WORD DISTRACTOR 'B' LIKE REFERENCE MATERIAL PROVIDED |
| 99  | F            | 3            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |
| 100 | F            | 2            |                       |      |     |             |         |                      |         |         |          | OK       | ✓        | S        |  |
|     |              |              |                       |      |     |             |         |                      |         |         |          |          |          |          |  |
|     |              |              |                       |      |     |             |         |                      |         |         |          |          |          |          |  |
|     |              |              |                       |      |     |             |         |                      |         |         |          |          |          |          |  |