### Form 6.2-5 Developing Open-Reference Test Items

Analysis‑level open‑reference questions should be developed according to the following decision steps and mental model:

1. Determine the purpose of the test. Do you want to test *knowledge where* and *knowledge what/how*?

2. Determine the information needed to respond to the question. Is the volume and kind of information such that you would *not* normally expect candidates to recall the information from memory to answer the question?

3. If the answer is *yes* to both Questions 1 and 2, develop an open‑reference question.

4. Construct the question as two tiers:

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| **Tier Purpose** | **Process** | **Criteria** | **Outcome** |
| 1. Knowledge where | Evaluate reference sources | Avoid clues in stem | Locate reference sources |
| 2. Knowledge what/how | Integrate multiple variables/events | Information volume and detail high (not in memory) | Identify correct answer |

**Question Stem**

bits, chunks of stem information

(conditions, setpoints, components, etc.)

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| Mental Processes | | | Processes | | | |  |  |
| \* Analyzing | | | a. Answer | | | | \* Integrate mental processes with stem information, reference data, and distractors. | |
| \* Sorting | | | b. Distractor | | | |
| \* Eliminating | | ←→ | | c. Distractor ←→ | | |
| \* Differentiating | | | d. Distractor | | | |
| \* Evaluating | | |  | | |  |
|  | | | Determine Answer | | | |  | |