

# questions reviewed in depth. \*Qs marked U that were used on previous NRC examinations were not counted against the 20% criteria since they were previously sat Qs.

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	3											Y		N	E	Replace "result in" with "ensure". RO Question? <b>Replaced. Verified RO Question</b>
2	H	1											Y		N	U	Distractors (a.) and (b.) are not plausible. Not a higher skill question. LOD = 1. <b>Replaced with acceptable question.</b>
3	H	2											Y		B	E	In the stem: change is to was; put rest of stem (bullets) in past tense. Delete fourth bullet. Change distracter 'C' to be the opposite of distracter 'A'. Change distracter 'D' to "neither pump will auto start and one or both pumps must be manually started" <b>Made changes</b>
4	F	2													B	S	2002 Pilgrim
5	F	3											Y		N	S	Verify that Vital AC is same as 120/240 VAC UPS (Instrument Power) Higher skill question. <b>Verified.</b>
6	H	1.0											N		B	*S (U)	2004 Columbia. LOD = 1.0 What is the loss or malfunction associated with the PCIS/NSSS? <b>Replaced with acceptable question.</b>
7	H	3											Y		B	E	Remove double space in bullet 3 (turbine stopped). Un-capitalize System in distractors (c.) and (d.). <b>Made changes.</b>

Instructions

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

- Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
- 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).
- 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).
- 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.
- 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).
- Enter question source: (B)ank, (M)odified, or (N)ew. Check that (M)odified questions meet criteria of ES-401 Section D.2.f.
- 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?
- At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
8	F	2											Y		N	E	<p>All applicants are incumbent operators and should know that all APRM Channels have full coverage. Question should require applicants to choose from four choices which describe how detectors are sampled; e.g.</p> <ul style="list-style-type: none"> <li>a) Each channel monitors the detectors in a separate horizontal plane and due to control rod symmetry is representative of average core power</li> <li>b) Each channel monitors the detectors in a separate vertical sector and due to control rod symmetry is representative of average core power</li> <li>c) Each channel monitors a group of detectors chosen in an orderly pattern across the core and includes detectors in each detector plane</li> <li>d) Each channel monitors a group of detectors chosen at in an orderly pattern within separate vertical sectors.</li> </ul> <p><b>Licensee accepted and used this suggested fix.</b></p>
9	H	4	X				X						Y		N	S U	<p>Simply stating that noise levels in the plant are normal does not rule out the possibility of an air leak. Normal noise levels in some areas could easily mask an air leak.</p> <p>The actions specified in distractors 'A' and 'D' are subsequent actions that are not required to be memorized.</p> <p>A better fit for the K/A might be to identify adverse consequence of operating the IA system with the Air Dryers bypassed.</p> <p>Refer to question 53. Evaluate whether either question gives clues to the other. <b>Reworked distractor (c.). Remainder of the question is satisfactory. Q53 doesn't provide clues for this Q. Changed to S.</b></p>
10	F	2.5											Y		B	S	<p>2011 Pilgrim Cognitive level should be Comp/Analysis since you have to evaluate how the loss of air affects the level indication then how that failure affects other system components. <b>Changed to higher cognitive skill.</b></p>
11	H	3											Y		B	S	
12	H	2											Y		B	S	<p>2010 Duane Arnold Distractor 'A' is not plausible. Don't know of any SRV that will not operate in the safety mode. Replace if possible. <b>Replaced the distractor.</b></p>
13	H	2											Y		N	E	<p>Distractor (b.) is implausible. In the stem you state that KW = 0. The generator should not trip on overload under these conditions. Find a new distractor. <b>Licensee provided information that makes distractor (b.) plausible. Kept the distractor.</b></p>

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14#	H	2											Y		B	E	<p>Reword stem to eliminate first part of distracters; e.g., To prevent thermal stratification, under these conditions:</p> <ul style="list-style-type: none"> <li>a. Flow must be increased and maintained GTE 6700 GPM</li> <li>b. Reactor Temperature must be reduced and maintained LTE 140°</li> <li>c. Flow must be maintained GTE 4100 GPM</li> <li>d. Reactor water level must be maintained GTE 190 inches.</li> </ul> <p><b>Replaced with suggested question (post exam comment: 100% miss rate on this question.)</b></p>
15	H	2				X							Y		N	U	<p>Distractors (c.) and (d.) are implausible. This goes against the basic idea of one train will provide safe shut down conditions for the plant. Taking one train out of service should not result in a failure to establish adequate core cooling. The reference document states that pump flow must be increased to at least 4100 GPM after 4 hours of operation with flow less than 4100 GPM. Following an ECCS actuation, no manual operator action to increase flow above 4100 GPM is permitted for the first hour, and then only if the pump is not needed to maintain adequate core cooling. Please resolve while fixing this question. <b>Reworked question. Changes were acceptable.</b></p>
16#	H	2											N		B	E	<p>Question relates to the 2<sup>nd</sup> part of the K/A, but not the 1<sup>st</sup> part. Can we fix to address both parts? <b>Reworked Q to add 1<sup>st</sup> part of the K/A.</b></p>
17	H	1											Y		N	E	<p>Recommend replacing "PCPL-A violation" with "breach of the primary containment" or "challenge to primary containment integrity" Remove automatic Automatic from the stem. I would immediately select the lowest level, knowing if it is a higher level, the lower one will be right This is a subset issue. <b>Reworked Q to eliminate subset.</b></p>
18	H	2											Y		B	S	2007 Monticello
19#	H	2											Y		B	S	2011 Susquehanna
20	F	2				X	X						Y		B	E-U	<p>Matching LOWER than assumed power level to a MINIMUM SRM count rate makes Distracters 'B' and 'D' non-credible. Additionally, shouldn't the question source be MODIFIED? <b>Licensee provided system information that shows distractors (b.) and (d.) are credible at Vermont Yankee. Accepted added information, left Q as is. Changed to E.</b></p>
21	H	2											Y		B	S	2007 Duane Arnold
22#	F	2											N		N	U	<p>The generic K/A should be linked to the system (PCIS/NSSS). There is no HIGH RPV water level input to the isolation logic for the MSIVs. <b>Q was replaced/revalidated with a new Q.</b></p>
23	H	2											Y		N	E	<p>Put "The SLC SYS 1 is..." in the stem and remove it from each distractor. <b>Done.</b></p>

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24	F	2							X				Y		N	E	The difference between choices 'C' and 'D' is trivial. The key knowledge being tested is that DC-3A can be supplied by DC-1, and that there is a design feature that prevents parallel operation of the two supplies. Replace distractor (c.). <b>Replaced distractor (c.).</b>
25#	H	2											Y		B	E	Add "or why not?" to the question stem. <b>Added.</b>
26	H	2											Y		B	E	2009 Vermont Yankee Reformat the question with numbers in the blanks and in front of the answers. <b>Reformatted.</b>
27	F	2											Y		B	S	2011 Columbia
28#	F	2											N		B	U	K/A is for the Condensate System but focus is on Feedwater System. <b>Changed K/A to one that maintained outline, retained Q.</b>
29	F	2.5				X							Y		N	S U	Need a better explanation of why distractors 'B' and 'C' are plausible. What is the plausible tie between RMCS Select Matrix and upscale/downscale trips? <b>Licensee provided additional information that shows distractors (b.) and (c.) are plausible. Retained Q as is. Changed to S from U.</b>
30	F	2											Y		N	E	2010 Grand Gulf This question does not look anything like the Grand Gulf Question. It should be new, not modified. Add degree symbol – second bullet. <b>Made requested changes.</b>
31#	F	2											Y		N	E	Subsequent actions of normal procedures are not required to be memorized. May reword question to: Which one of the following describes actions that are appropriate for the given conditions? <b>Made requested changes.</b>
32	F	2													M	S	2004 River Bend
33	H	2											N		N	U	Moving control rods from the MCR is not "operating the FUEL HANDLING EQUIPMENT controls" required by the K/A. Question as posed is a fundamental question. <b>Q was good, therefore, replaced K/A with an appropriate K/A that maintained the outline. Retained the question.</b>
34#	H	2						X					Y		N	U	Verify that pump runout will not occur to verify the correct answer. Once the RPV depressurizes the pumps may be trying to pump twice their normal flow rate and enter runout conditions. <b>Replaced Q.</b>
35	H	2											Y		N	S	
36	F	3				?									B	S	

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37#	H	2											Y		N	E	<p>Add ' on A in distractor (a.).</p> <p>Recommend the following to increase LOD:</p> <p>Remove the failure mode from the stem of the question and add pump discharge pressure to the bulleted list. Change the question to determine the status of each subsystem; e.g.,</p> <p>Which of the following actions is necessary to maximize injection to the RPV from the Core Spray system?</p> <ol style="list-style-type: none"> <li>Close or isolate CS-5A</li> <li>Close or isolate CS-5B</li> <li>Throttle both CS-12A and CS-12B to full open</li> <li>Throttle CS-12B only to full open</li> </ol> <p><b>Replaced Q with suggested Q.</b></p>
38	H	2											Y		B	E	<p>2007 Hope Creek</p> <p>Remove reason for the scram; it is immaterial to the question.</p> <p><b>Removed extra material.</b></p>
39	H	2											Y		B	E	<p>2007 Peach Bottom</p> <p>Add a bullet stating RPV water level that is high enough to preclude Recirc Pumps in operation. (See Question 14) <b>Unnecessary change. Q retained as is.</b></p>
40#	H	2.5											Y		B	E	<p>Change correct affect to correct effect in the stem. The question is very specific to Standby Gas, and if the associated breaker also disables the fan, its immaterial what position the dampers are in. Verify validity of question. <b>Made correction. Q is valid as is.</b></p>
41	H	2											Y		B	E	<p>2007 Duane Arnold</p> <p>Recommend removing the temperature value and simply state that Torus temperature is rising due to a leaking SRV.</p> <p>Replace "capability" with "inability" OR Reword the answer choices to state adequate/complete. <b>Made suggested changes.</b></p>
42	H	2.5													B	E-U	<p>Spell out "approximately" in the 2<sup>nd</sup> bullet of the stem. Change last bullet to SLC A was started at 1230 hours. Unless the values are included in OP4114, the applicant is expected to have memorized the SLC Pump flow rate and percent change in storage tank level to achieve cold shutdown Boron weight. NRC does not require these values to be memorized. <b>Licensee made slight modifications to the Q, but maintained they require operators to know cold shutdown boron weight from memory.</b></p>
43#	H	2											N		B	U	<p>The KA is related to effects that a high pressure transient will have on RPV level and not calibration condition; e.g., what happens to indicated level if pressure increases due an MSIV or TCV closure; or how is RPV injection affected by pressure transient. Also, see Question # 011. They test the same item, replace one. <b>Replaced Q.</b></p>

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44	F	1											Y		B	*S U	2010 Nine Mile Point 2 LOD = 1. Not a higher skill question. <b>Interpretation is required – higher skill. Licensee provided information showing this is a problem issue at the station, i.e. (LOD=2) Retained Q</b>
45	F	1											Y		B	*S U	2010 Monticello. LOD = 1. <b>Licensee provided information showing this is a problem issue at the station, i.e. (LOD=2). Retained Q.</b>
46#	F	2											Y		B	E	Suggest changing answer choice 'A' to "...Containment which may fail..." <b>Made suggested change.</b>
47	F	2											N		N	U	Question asks how the Turbine is tripped and not WHY as specified by the K/A. <b>Replaced Q.</b>
48	F	2											Y		N	E U	In accordance with OPON-3147-01 implies memorization of procedure steps. Show how this is required to be memorized or derived based on required knowledge. <b>Removed portions of the procedure, retained Q. Changed to E.</b>
49#	H	2	X						X				Y		B	E U	What is the point of the question? Does the operator really care what water level is doing during blowdown? He is more interested in level during recovery after injection is initiated. The second part of the question does not seem to be supported by the reference provided. <b>Licensee provided information indicating they expected operators to know what water level instruments to use. Reworked part of the Q. Changed to E.</b>
50	H	3											Y		B	E	Since indications are dependent on the failure mode, suggest stating how the jet pump failed (e.g., displaced mixer) <b>Added info.</b>
51	F	2											N		B	U	The focus of the question is on Torus water level and not temperature. Based on Torus water level you don't need to know Torus water temperature (level has reached the trigger point and all attempts to restore level have failed). <b>Replaced, revalidated Q.</b>
52#	F	2											N		B	E U	Question does not determine or interpret reactor water level associated with a turbine trip. Q doesn't match K/A. <b>Good Q, replace K/A, retained Q. Changed to E.</b>
53	F	2											Y		B	S	
54	F	2											Y		B	E	Cognitive level could be increased by asking. Including impact to EDG B (will it keep running?) <b>No change.</b>
55#	F	2											Y		N	U	Applicants are not required to memorize step sequences. Show why applicants would know this information from memory, OR, revise last stem statement to state: "Main Control Room personnel were unable to place the Shutdown Iodine Filter in service" then include for choices of action with the correct choice being to place the filter in service locally. <b>Replaced, revalidated Q.</b>

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
56	F	2											Y		B	S	
57	F	2											Y		B	S	
58#	H	2											N		B	U	Question is related to recall of automatic actions and does not test the ability to prioritize or interpret significance. <b>Reworked, revalidated Q.</b>
59	F	2											Y		B	S	
60	F	2.5											N		B	S U	Verify the steps to restore ventilation are temperature related and not just required after any isolation. <b>Licensee provided information to verify the steps. Changed to S.</b>
61#	F	2											N		B	U	Question tests knowledge entry conditions and/or triggers for action and not the reason initiating suppression pool cooling. <b>Replaced, revalidated Q.</b>
62	F	2											Y		B	S	
63	F	2											Y		B	S	
64#	H	2						X	X				N		B	U	295012 is related to HIGH DRYWELL PRESSURE. Question focus is on Radiation Release. What is meant by outdated entry condition. Seems to me that ON 3152 is still required to be entered. Selection of procedures is an SRO task. <b>Selected correct K/A, moved to SRO exam portion (Q80).</b>
65	H	2											Y		B	S	
66	F	2											Y		N	S	
67	H	2.5											Y		B	S	2007 Vermont Yankee
68	H	2.0											Y		B	S	2009 Monticello
69	F	2.0											Y		B	S	2009 Pilgrim
70	F	2.0											Y		B	S	2009 Vermont Yankee
71	F	2.0											Y		B	S	2009 Vermont Yankee
72	F	2.0											Y		B	E	2007 Pilgrim - Entry into EOP3 is not discriminatory, it shows in all four distractors. See if you can add a transition to EOP3 to make it discriminate. <b>Added drywell pressure.</b>
73	F	1		X									Y		N	U	The first and most obvious action (depress manual scram pushbuttons) only appears in choice 'D'. Distractor (b.) can be eliminated because there is only one action in the distractor where the stem says to identify actions. <b>Revised, revalidated Q.</b>

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74	H	2										Y		B	S	2009 Pilgrim
75	H	2										Y		B	S	2011 Pilgrim
76#	H	2.5										Y	S	N	E	Second bullet – air samples are in mrem/hour. Is this correct for the station? <b>Left Q in mr/hr. Some samples are mr/hr, some DAC.</b>
77	H	2										Y	S	B	S	
78	H	2										Y	S	B	S	
79#	H	2										N	R	B	U	Although the question has a turbine trip in it, the question doesn't deal with the turbine trip, it deals with a loss of air to containment. Also, not an SRO question. <b>Replaced, revalidated Q</b>
80	H	2.5										Y	R	B	E	Change the stem to "The CRS will direct operators to..." <b>Q was swapped with Q64 that was an SRO Q. Changed to E.</b>
81	H	2.0										Y	S	B	S U	No correct answer. ED is required when the setpoint is reached in the EOPs. <b>Licensee provided information from BWROG showing the answer is correct. Changed to S.</b>
82#	H	2.0										Y	S	B	S	
83	H	2.5										Y	S	B	S	
84	H	2.5										Y	S	B	S	
85#	H	2.0										Y	S	N	E	Change question so SRO declares operability (ROs have to recognize inoperability.) <b>Revised, revalidated Q.</b>
86	H	2.0										Y	S	N	S	
87	H	2.0										Y	S	B	S	
88#	H	2.5										Y	S	N	S	
89	H	2.0										Y	S	N	S E	It appears that 5 distractors have been submitted for this question. Delete an incorrect distractor. <b>Examiner copy of Q was flawed. Only 4 distractors provided. Changed to S.</b>
90	H	2.0										Y	S	N	S	
91#	H	2.0										Y	S	B	S	
92	H	2.0										Y	N	B	U	Need info to determine if this is an SRO question or an AO question. <b>Replaced, revalidated Q.</b>
93	H	2.0										Y	S	B	S	
94#	H	2.0										Y	S	B	S	



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95	H	2.0										Y	S	B	S	
96	H	2.5										Y	S	B	S	
97	H	2.0										Y	S	B	S	
98	H	2.0										Y	N	B	S U	Not an SRO Question. the RO should know what to do under the given circumstances; the technical specification call is above the double line, i.e., the RO should know this information. <b><i>VY doesn't have standardized TS. Determined the Q is acceptable as is with their TS. Changed to S.</i></b>
99	F	2.0										Y	S	B	S	
100	H	2.0										Y	S	B	S	