

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. K/A Use Flaws		6. Source (B/M/N)	7. Status (U/E/S)	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job Link	Minutia	#/Units	Logic	Q-K/A	License Level			
1	H	2												B	S	
2	H	3												N	S	(FREE LOOK)
3	H	3												N	S	<u>NRC:</u> - Is there a typo? - B(2) does not equal D(2) ... "RAT" vs. "ERAT". <u>Response:</u> Typo corrected. Both should say ERAT.
4	F	3												B	S	
5	F	2												N	S	<u>NRC:</u> - The question needs to be more challenging. - Can the Reactor Feed Pump (RFP) be changed to the 'A' RFP (because a "normal" uncomplicated scram always results in tripping of the 'B' RFP ... Is there ever a case where the 'B' TDRFP is NOT tripped?)? - Can the 2nd bullet in the stem be revised from 16" and rising to -42" and rising slowly? - Is it common to mix terminology ("X inches" vs. "Level 3 or Level 8") at CPS? - The same terminology should be used to remove potential ambiguity. <u>Response:</u> I could not make the existing question more challenging while maintaining license level and plausibility of distractors – replaced question under the same KA.
6	F	2												B	S	(FREE LOOK)

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7	H	3												B	 S	<u>NRC:</u> - There are too many references in this “closed reference” exam. - NUREG-1021, ES-4.2 B.2.d – “The written examination for initial licensing is a closed-reference examination ... Reference materials, such as diagrams, sketches, mimics, pictures, and portions of facility procedures, may be used on a selective basis ...”. - While an exact limit does not exist, an Operator Licensing Feedback Document (4.2.14/401.42) provides the following guidance: - The RO and SRO initial license examinations largely and properly remain “closed-book;” current policy regarding the judicious and sparing use of references is appropriate. However, because of the supervisory nature of the SRO position that relies on a greater use of references and because of its separate 25-question examination that addresses content in 10 CFR 55.43, there is a justifiable basis to allow a greater number of references to be used on the SRO exam ... both RO and SRO exams, as initial license exams, should similarly rely more heavily on knowledge memory and the application of this knowledge, which the NRC staff believes does not diminish operational validity ... the following ranges are provided regarding the allowable use of references on initial license examinations ... in addition to the steam tables and the generic fundamentals equation sheet ... quantitative ranges are not absolute limitations, nor should they be construed as goals or requirements ... RO (75 items) = up to ~5% or 4 questions ... SRO (25 items) = up to ~20% - 25% or 5 - 6 questions. - However, the Chief Examiner retains the responsibility to the written examination conforms with the requirements in NUREG-1021. - The embedded reference is not necessary. - A possible solution is to delete the picture and add a bullet that states the status of the pumps. <u>Response:</u> I agree. Removed graphic from stem and replaced it with bullets that give pump status.
8	H	4												B	 S	<u>NRC:</u> - There are too many references in this “closed reference” exam. - A possible solution is to delete the picture and add bullets giving the status of the compressors and providing a table of valve positions. <u>Response:</u> I agree. Removed graphic from stem and replaced it with bullets that give compressor status.
9	F	2												N	S	(FREE LOOK)
10	H	2												B	S	

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11	H	3												B	 S	<u>NRC:</u> - There are too many references in this "closed reference" exam. - A possible solution is to provide a list of parameters. <u>Response:</u> I agree. Removed graphic from stem and replaced it with a table of parameters before and after the accident.
12	F	2												B	S	(FREE LOOK) <u>NRC:</u> Is there a typo in the question pedigree (Technical Reference block)? ... It shows CPS 5067.07. Should it be CPS 5067.06? <u>Response:</u> This is a typo. Corrected to CPS 5067.06.
13	H	4												N	S	<u>NRC:</u> Are the EOP/SAG Bases RO-level/required knowledge? <u>Response:</u> EOP-SAG Technical Bases are RO-required knowledge.
14	H	4												B	S	
15	H	2												M	 S	<u>NRC:</u> The Additional Information block of the question pedigree doesn't appear to match the question. <u>Response:</u> Corrected.
16	H	4												B	S	
17	H	3												B	S	
18	F	4												B	S	(FREE LOOK) <u>NRC:</u> Should the last phrase in the answer explanation for Option D say – "... however it is <u>not</u> used during accident sampling"? <u>Response:</u> It should say "... however it is not used during accident sampling" and is corrected.
19	F	4												B	S	
20	H	3												B	 S	<u>NRC:</u> Distractor C explanation refers to plausibility based on frequency swings. However, the question stem indicates that frequency has been stable for 15 minutes? <u>Response:</u> Clarified answer explanation and C distractor to illustrate the deviation from 60Hz, not a frequency swing.

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21	H	3												B	S	<u>NRC:</u> - The term IMMEDIATE could be subjectively applied to Distractor A making it also correct. Is there a way to make Distractor A more definitively incorrect? - Losing 6.9 KV Bus would be instantaneous – so it could be argued that this is MORE of an “immediate” concern. - Can Distractor C be changed to read “The need to promptly exit the ...”? - Can Distractor D be changed to read “CW Pump ‘A’ automatically tripping on ...”? <u>Response:</u> Agree. Changed all three of the distractors.
22	F	3												B	S	<u>NRC:</u> All of the Technical Specifications (T.S.) listed have 2 hour action statements. Is this RO-level knowledge? <u>Response:</u> While greater than 1-hour action statements are not RO-level knowledge, applicability and entry conditions to all Technical Specifications is RO-level knowledge. This question tests applicability and entry conditions.
23	F	3												N	S	(FREE LOOK) <u>NRC:</u> - Isn't moisture carryover a result of water overflow into the Main Steam Lines? Please explain how Options A & B are not “overlapping”, “equivalent or synonymous”, or “subsets”. (ES-4.2, D.12, D.15.c, and/or D.15.d). - Can a different option be used for one of them, maybe to prevent RCIC turbine damage (plausible because “standard” turbines are not designed to run in high moisture contents)? <u>Response:</u> Agree, and this was also noted during validation. Changed distractor ‘B’ to preventing RCIC turbine damage.
24	H	4												B	S	
25	F	3												B	S	
26	H	3												B	S	<u>NRC:</u> - There are too many references in this “closed reference” exam. - A possible solution is to provide which room(s) is(are) above Max Temperature. <u>Response:</u> Agree, and removed the graphic – replaced with a chart showing room temperatures and which are above Max Normal.
27	F	3												N	S	
28	H	2												B	S	
29	H	3												N	S	
30	H	3												N	S	<u>NRC:</u> Can Distractors C(1) and D(1) “remain constant” be modified to be made more viable? <u>Response:</u> I do not agree that these distractors are not viable; will discuss prior to or during Prep Week.
31	H	3												N	S	
32	H	2												N	S	

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33	H	4												B	S	
34	H	4												B	S	
35	F	3												N	S	
36	F	4												N	E S	<u>NRC:</u> • Include the noun name for the F045 valve. • Include how the limit switch failed (in what position). • Distractor D – Change the “will” to all uppercase to match the other answer options. • There are too many references in this “closed reference” exam. Isn’t the operation of the interlock required knowledge? Including the print exercise makes this question appear more like a JPM than a “closed reference” exam question. <u>Response:</u> Noun name included. Limit switch failed open; stem updated. Capitalized “WILL” in all distractors. Removed reference.
37	H	3												B	S	
38	H	4												B	S	
39	H	3												N	S	
40	F	4												B	S	
41	F	3												B	S	
42	H	3												N	S	
43	H	3												B	E S	<u>NRC:</u> • There are too many references in this “closed reference” exam. ○ Is it possible to phrase the question in a manner that doesn’t require use of the graphic? <u>Response:</u> Agree and changed stem of question to no longer require a graphic.
44	F	3												N	S	
45	H	4												B	E S	<u>NRC:</u> • There is a typo in the explanation for Distractor D (“... power distribution to to the 4.16/6.9 KV ...”). <u>Response:</u> Typo corrected.
46	H	2												B	E S	<u>NRC:</u> • There are too many references in this “closed reference” exam. ○ Recommend using CL-ILT-A12047 or some other bank question instead. <u>Response:</u> Agree and replaced question.

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47	H	3												N	S	<u>NRC:</u> - Can this be written so that it is not a "2x2" question? - All 6 battery chargers are energized. - All 6 battery chargers are deenergized. 1A, 1C, 1E are energized. 1B, 1D, 1F are deenergized. 1A, 1B, 1C, 1D are energized. 1E, 1F are deenergized. <u>Response:</u> Agree and re-formatted question and distractors.
48	H	3												B	S	
49	F	3												N	S	
50	F	2												B	S	
51	F	2												B	S	
52	F	2												N	S	<u>NRC:</u> - Distractors C and D seem too similar. Could D be revised to something else? - A potential solution could be to say the standby WS pump will start and provide adequate flow to the GC cooler. <u>Response:</u> Agree, but feel that making the standby WS pump the D distractor may be a subset of the A distractor. Changed both the A and the D distractor; one to the backup WS pump, the other to the SX system as backup, but both for the same reason.
53	F	2												B	S	
54	F	3												B	S	
55	F	3												N	S	
56	H	3												N	S	
57	H	3												B	S	<u>NRC:</u> - Distractors A and B are not plausible. - If normal rod withdrawal is NOT inhibited, then no action is required "to allow the control rod move to be completed". <u>Response:</u> I do not agree. Per CPS 3304.02, Rod Control And Information System (RC&IS) Section 8.2.2, third bullet under NOTE, whether rod motion has been inhibited or not, substitute data must be entered for the inaccurate channel. Depending on power and which rod is being withdrawn, the RCIS may inhibit motion, but substitute data must be entered in either case. To discuss prior to or during Prep Week. <u>NRC:</u> - Re-evaluated as Satisfactory.
58	H	2												N	S	
59	F	3												B	S	
60	H	2												N	S	

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61	H	3												M	S	(FREE LOOK) <u>NRC:</u> Modified questions must include an explanation of “how the bank question was significantly modified or include a copy of the original bank question.” (ES-4.2, B.6.c). <u>Response:</u> The final submittal will include a copy of the original version of every bank and modified question on this exam.
62	F	4												N	S	
63	F	3												B	S	
64	F	2												N	S	<u>NRC:</u> Remove the underline from “require” in the stem and add “per CPS 3005.01” (or something equivalent). <u>Response:</u> Removed underline; regarding adding the procedure reference, I feel this may cue the candidate to the correct answer. To discuss prior to or during Prep Week.
65	H	2												B	S	<u>NRC:</u> At CPS, is a “rod drop” a rod “dropping out of the core”? <u>Response:</u> No. A rod drop is a control rod falling vertically (raising reactivity in a local region of the core), one or several notches. This is different from an inadvertent control rod movement, which could be in either direction. Both off-normal procedures have similar entry conditions.
66	F	2												N	S	
67	H	2												N	S	
68	H	2												B	S	
69	F	2												N	S	
70	H	3												N	S	
71	F	3												B	S	
72	F	3												B	S	
73	F	3												B	S	
74	F	2												B	S	<u>NRC:</u> - The question is not operationally valid and I don’t believe it is possible to write an operationally valid question for this K/A. 293008 K1.01 was randomly selected as a replacement. Please write/select a new question for the new K/A. <u>Response:</u> New question written. <u>NRC:</u> - New question evaluated as satisfactory.
75	F	2												B	S	

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76	H	3												N	S	<u>NRC:</u> - Change “should” to “will” in part (2) of the stem (to be more declarative/clearer) (ES-4.2, C.3). - Does OP-CL-101-111-1001, Strategies for Successful Transient Mitigation, direct when to use the 500-600 psig pressure band? - If so, end part (2) of the stem with something like “per OP-CL-101-111-1001, Strategies for Successful Transient Mitigation” (ES-4.2, C.3). <u>Response:</u> Changed “should” to “will”. Added “per OP-CL-101-111-1001, Strategies for Successful Transient Mitigation”
77	F	3												N	S	
78	H	4												B	S	
79	H	2 4		✗										B	S	(FREE LOOK) <u>NRC:</u> - Please explain how the provided reference (CPS 5041.03, pg.5) “does not ... improve the applicant’s chances of guessing the correct answer by eliminating incorrect distractors” (ES-4.2, B.6.d). - AUTO ACTION #1 – “Dryer Bypass valve opens if Dryer outlet pressure falls to 70 psig.” - There is NO Auto Action for isolation – Therefore, given the reference, Options A and C are implausible. - Given the reference, Option B is obviously implausible since Auto Action #1 describes the proper operation of the Dryer Bypass valve. - OPERATOR ACTION #4 – “If the SA Dryer has trouble due to switching failure, low outlet pressure, high prefilter/after filter d/p, then: a) Place the spare SA dryer in service. B) Isolate the affected SA dryer.” - This are the ONLY operator actions that match anything in the answer options – Therefore, given the reference, B and D are the ONLY plausible options. <u>Response:</u> Agreed and removed reference.

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80	H	2		K										B	U S	(FREE LOOK) <u>NRC:</u> - Please explain why the SNIP of CPS 4404.01 (RPV Blowdown section) needs to be provided as reference and, if “needed”, how it “does not ... improve the applicant’s chances of guessing the correct answer by eliminating incorrect distractors” (ES-4.2, B.6.d). - Please explain the method(s) that will be used in “the BLOWDOWN leg of EOP-1A” to “fully depressurize” the RPV when crew “attempts at reducing RPV pressure with SRVs are NOT successful”. <u>Response:</u> Agreed with comment 1 and removed the blowdown snip. Regarding second comment, although attempts at lowering pressure with SRVs are unsuccessful, the procedure still leads the crew to enter the blowdown leg of EOP-1. If blowdown is unsuccessful using ADS, the procedure directs using Detail P2 systems to lower RPV pressure – these include MSIV drains, RWCU, and opening the RPV head vent.
81	H	3												B	S	
82	H	2												N	S	<u>NRC:</u> Typo – In the first bullet of the stem – “All actions ... systems responded has expected” ... it should say “as expected”. <u>Response:</u> Corrected typo.
83	H	3												B	S	
84	H	3												N	S	
85	H	3												B	S	<u>NRC:</u> Typo – In the stem – The “1420” sentence should look like the others ... add “At” to the beginning. <u>Response:</u> Corrected.
86	H	2												B	S	
87	H	3												B	S	<u>NRC:</u> Typo – In the References Provided block – The table designation should say “3.3.1.1-1”. <u>Response:</u> Corrected.

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88	H	4												N	S	<u>NRC:</u> - Please explain why it is plausible (with a Group 1 isolation and SRVs have opened putting heat into the D/W and suppression pool) for D/W pressure to go from 1.80 down to 1.60 psig? - Please state specifically how and why the SRV condition is met (ES-4.2, C.3). - In the question explanation section, include information about when/which SRVs open, when/which SRVs close, why reactor pressure lowers with 2 SRVs open (10% ATWS < 12% for 2 SRVs) until the 1st SRV resets, pressure turns (10% ATWS > 6% for 1 SRV), pressure rises to 970 psig and beyond. - If this isn't the case, and "anticipation" of the SRV opening is enough to satisfy answering yes to the IF-AND-AND-THEN statement, then provide the source that describes how "anticipation" is appropriate for this step of the EOPs. - Typo – In the answer explanation, "... of the second IF-AND-AND-AND-THEN statement ..." ... Should that be 2 "ANDs" vs. 3? - Typo – In the answer explanation, "... RPV water level drops to -140 in., OR" ... Should that be -162 in.? <u>Response:</u> SRVs do not put appreciable heat into the drywell because they expel to the suppression pool. Additionally, it's plausible that mixing compressors have lowered drywell pressure. It is undeniable that an SRV has opened because the highest reactor pressure achieved was 1110 psig per the stem. Per CPS 5067.06, the first SRV will lift at a pressure of 1033 psig. Added this information to the answer explanation. Corrected IF-AND-AND-THEN typo. Corrected -140 to -162 in answer explanation. Re-worded "Current drywell pressure is below 1.68 psig, but due to the Group 1 isolation and current pressure trend, all SRVs will not stay closed" for clarity.
89	H	3												B	S	<u>NRC:</u> Typo – In the K/A Reference block – "Ability to ... (AC/DC) and (b) based on those ..." ... it should say "... (b) based on ..." <u>Response:</u> This is corrected.
90	F	3												N	S	
91	H	2												N	S	
92	H	3												B	S	<u>NRC:</u> The References Provided section must include (ITS 3.3.6.1). While the reference was identified as being given for SRO Q12/87, it must also be listed for this question as well. <u>Response:</u> Added ITS 3.3.6.1 to references.
93	H	4												N	S	

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94	F	3												N	S	<u>NRC:</u> - Recommend including a “why statement” at the end of distractor A (to provide plausibility for why “no actions are required”) (ES-4.2, C.3). - Potential solution – Since the licensed IA/STA SRO is qualified to stand the RO position. <u>Response:</u> Changed distractor A to read “No actions are required since the licensed IA/STA on shift is qualified to stand the RO position.”
95	F	2												N	S	
96	H	3										✖		B	S	<u>NRC:</u> - This is a K/A mismatch. The K/A is related to the ability to recognize system parameters that are entry-level conditions for T.S. The question asks what T.S. required actions should be taken. The question eliminates the recognition of entry part of the K/A. - The References Provided section must include (ITS 3.3.1.1 with portions of Table 3.3.1.1-1 redacted). While the reference was identified as being given for SRO Q12/87, it must also be listed for this question as well. <u>Response:</u> Agree. This KA is an RO-level KA; recognizing system parameters that are entry-level conditions for Technical Specifications is an RO function at CPS. I would like to reject this KA for the SRO exam on that basis and recommend KA 2.2.45 with CE concurrence. Added reference listed above. <u>NRC:</u> - The question is better suited for the “SRO-version” of the same knowledge/ability concept. Revised the K/A to the SRO-version. The question was re-evaluated as satisfactory.
97	F	2												B	S	
98	H	3												N	S	<u>NRC:</u> - Recommend reversing part (1) and part (2) of the stem (and the following edits – or something equivalent): (ES-4.2, C.3). (1) When Potassium Iodide (KI) issuance is required for emergency workers, who must authorize its issuance? (2) Is KI issuance recommended for the emergency workers in the conditions described above? <u>Response:</u> Made changes recommended above.
99	H	3												N	S	
100	F	2												N	S	

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

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