

**NRC COMMENTS TO INITIAL EXAMINATION SUBMITTAL**

**FOR THE PALISADES EXAMINATION - DECEMBER 2001**

# Palisades Operating Exam Comments

## Administrative JPMs

### A.1.a (RO) Determine FW Reserve Inventory

NRC Comments:

- 1) Step 4, range should be 277-283 kg
- 2) Step 8, note how many PCPs running for evaluator

Licensee: Agree with comments.

### A.1.a (SRO) Authorize a Key Checkout

NRC Comments: JPM not discriminating or significant enough to support a failure, recommend replacing.

Licensee: Agreed that JPM was not discriminating, or had enough significance to support a failure. Replaced with "Determine a Risk Achievement Worth (RAW)."

### Determine a Risk Achievement Worth (RAW)

NRC Comments:

- 1) JPM does not completely address the KA 2.1.19 because it does not require the applicant to evaluate the parametric information. Initially have equipment OOS, have the applicant determine the resultant change in CDF, and ask if the equipment in question could be taken OOS (why not?).
- 2) Step 1, need procedural reference or description on how applicant obtains computer info.
- 3) Step 4, cue required?
- 4) Note, original JPM (Authorize Key Checkout) was determined to not have sufficient significance for making a licensing decision and was replaced.

Licensee: Agree with comments.

### A.1.b (RO/SRO) Perform a Heat Balance Calculation Using the PPC

NRC Comments:

- 1) Step 2, why is PPC pg 521 already showing on the screen? Why not have applicant access it?
- 2) Step 4 is critical, applicant needs to identify required change for S/G blowdown flow.
- 3) Verify that actual S/G blowdown flow is less than PPC which makes a non-conservative calculation of power.

Licensee: Agree with comments.

### A.2 (RO) Develop CAUTION Tags for Pump

NRC Comments:

- 1) No safety significance related to CAUTION tags. Would be safety significant to identify tagout points for DANGER Tags for a pump tagout. REPLACE?
- 2) Why would applicant have to "explain" filling out forms for Steps 2 and 3?
- 3) Step 9 would be critical for filling out a WR, but why is it critical for CAUTION Tag? No critical steps in this JPM.

Licensee: Agree with comments. Replaced JPM with "Complete the SHO-1 Surveillance."

#### A.2 (SRO) Perform Administrative Review of a Temporary Modification

##### NRC Comments:

- 1) JPM is not discriminating enough because it does not adequately test the applicant's knowledge of the Temp Mod process (KA). It only requires the applicant to identify a missing signature. Suggest requiring applicant to identify additional problems such as updating control room drawings, hanging Caution Tags in Containment, and improperly filled out tag(s).
- 2) Initiating Cues: delete "...in accordance with Section 7.2.1..." and "No Control Room drawings or procedures require revision."

Licensee: Agree with comments. Will add additional problem with Temp Mod for SRO to identify.

#### A.3 (SRO) Approve a Batch Release

Licensee: During validation, the validators identified a problem with procedural guidance that would have prevented consistent and predictable response to performance of the JPM. The issue was entered into the licensee's Corrective Action process and the JPM was replaced with the RO A.3, "Radiation Control (Questions)" JPM.

#### A.3 (RO) Radiation Control (Questions)

##### NRC Comments:

- 1) Q1 response "...notify Radiation Safety for assistance." is never an incorrect response for contamination. Need to rewrite/replace with a more discriminating question.
- 2) Q2, give the applicant indications of an emergency condition (unplanned or abnormal) vice telling him/her it is an Emergency Condition.

Licensee: Agree with comments, questions were rewritten.

#### A.4 (RO) Obtain Meteorological Data for Emergency Notification Form

##### NRC Comments:

- 1) Not discriminating enough, only copy data from computer to NARs form, no decision to make, so no evaluation. Not significant enough to deny a license.

Licensee: Agreed. Will make part of data invalid, applicant will have to obtain valid data per the procedure.

#### A.4 (SRO) Complete the Emergency Actions/Notifications Form

##### NRC Comments:

- 2) Step 3 is critical.
- 3) Step 4, identify "EI-13 form."
- 4) Step 5, identify "...Notification Form." as EI-3.
- 5) Add "release" info to JPM Initial Conditions and Steps 10,11, and 12 so we can evaluate applicant's PARs recommendation.

Licensee: Agree with comments.

## System JPMs

### B.1.a Rotate Instrument Air Compressors NSA

#### NRC Comments:

- 6) Make C-2B have a problem, otherwise when C-2C has problem, applicant may just shutdown C-2C and leave C-2A and -2B operating (or trip off C-2A).

Licensee: Agree with comments.

### B.1.b Synchronize Main Turbine Generator to Grid MSL

#### NRC Comments:

- 7) Step 3, "...closely match voltages..." add failure criteria.
- 8) Step 9, make it necessary for applicant to adjust synchsopce rotation which will make step critical.
- 9) Step 10, step not critical (ie, "...checks...").
- 10) Step 12, step not critical. RO does the "verification of parameters" not the applicant.
- 11) Step 14(19), delete "Verify closed 25F7(25H9)" from step, already done in previous step.

Licensee: Agree with comments.

### B.1.c Emergency Borate MSA

#### NRC Comments:

- 1) Step 4, critical to identify failure of pump to start.
- 2) Step 5, not alternate path if SS has to direct the action (reference ES, Appendix C, C.4).

Licensee: Agree with comments.

### B.1.c (SRO) Recirc a BAST for Sample MSA

Licensee changed outline JPM to "Manually Initiate Safety Injection." Stated they had difficulty and loss of realism in making "Recirculating a Boric Acid Storage Tank for Sample" into an alternate path JPM.

### Manually Initiate Safety Injection

#### NRC Comments:

- 1) This is Safety Function 2, not 1. As such it doesn't fit outline requirement (reference ES-301, D.3.a)
- 2) Step 2, insert ""...right channel of..." in critical step criteria.
- 3) Step 5, critical step.
- 4) Step 9, not critical to identify that the left channel did not actuate?

Licensee: Agree with comments. Will replace JPM with "Emergency Borate" to fit safety function.

### B.1.d (RO) Alternate Pressurizer Level Controllers MSA

Licensee changed outline JPM to "Alternate Pressurizer Pressure Controllers." Stated they had difficulty and loss of realism in making "Alternate Pressurizer Level Controllers" into an alternate path JPM. Also a similar malfunction was used in the spare scenario.

Licensee subsequently changed the revised outline JPM, "Alternate Pressurizer Pressure Controllers," to "Raise Safety Injection Tank Pressure". Stated it was not possible to create a viable, procedurally driven, and realistic alternate path JPM for alternating pressurizer pressure controllers.

B.1.d Raise Safety Injection Tank Pressure MSA

NRC Comments:

- 1) Step 6,9, evaluator will not provide cue unless asked by applicant.
- 2) Step 7, step is critical (identify open valve).

Licensee: Agree with comments.

B.1.e Adjust RIA-0707 High Radiation Trip Setpoint DS

NRC Comments:

- 3) Step 1, add "...press and release..."?
- 4) Step 3,5, add "...enter to read, then release..."?

Licensee: Agree with comments.

B.1.f Open Pressurizer PORV Isolation Valve NS

NRC Comments:

- 1) Step 6, not critical.
- 2) Step 7 is completion of Step 6, what is critical criteria for step 7?
- 3) JPM only has one critical step, adequate discrimination and evaluation?
- 4) Simulator does not cause PORV to open if isolation valve improperly opened. Replace JPM.

Licensee: Agree with comments. Will replace JPM with "Place LTOP in Service."

B.2.a Manually Start P-9A Fire Pump NLA

NRC Comments:

- 5) Step 3, evaluator needs applicable parameters to give the applicant when asked. Applicant needs to determine pump did not start.
- 6) Step 4, evaluator will only give applicant requested information on parameters, sound...
- 7) Step 5, Initial Conditions explain why the pump is being started (flow testing), no need to give the applicant directions "not to secure the fire pump."
- 8) JPM was replaced during the exam based on incorrect technical information provided by the licensee during validation. The licensee identified the incorrect "T handle" to operate which resulted in an improper cue being given to the applicants. After discussion with the NRC RIII Branch Chief, the examiners and licensee prepared a new (not from the bank) JPM "Backwash Traveling Screens" which was alternate path and the same safety functional area. Examiners reviewed and approved the new JPM with regional concurrence.

Licensee: Agree with comments. Replaced original JPM with "Backwash Traveling Screens".

## Scenarios (1,2,spare)

### Scenario 1

#### NRC Comments:

- General) Need to add expected actions for all three positions.
- Event 1) Can count as either a Normal OR Reactivity, but not both. Reference: ES-301, D.4.d. Need to add either a Normal, or Reactivity. Also, list expected BOP actions (MT?).
- Event 7) PC leak is straight forward. No problem. Need some equipment failures.

#### Licensee:

Agree with comments.

- Event 1) Added (N) for BOP to place MFW in AUTO.
- Event 3) Added (I) for BOP, "Dilution Water Pp P-40A trip."
- Event 10) Added (C) for RO and BOP, "Loss of Bus 1C and failure of DG output breaker to close"
- General) Increased size of leak and number of stuck rods. Deleted MG AVR failure, similar to JPM.

### Scenario 2

#### NRC Comments:

- General) Need to add expected actions for all three positions. Make this scenario the SPARE.
- Event 1) Can count as either a Normal OR Reactivity, but not both. Reference: ES-301, D.4.d. Need to add either a Normal, or Reactivity. Also, list expected BOP actions (MT?).
- Event 2) Already doing a similar event in Scenario 1, replace with TBV fails open.
- Event 3) Too similar to other events, replace with "Loss of letdown pressure control high."
- Event 4) Delete dropped rod, no consequences.
- Event 6) Start with SGTL, get better evaluation for diagnosis of leak, determine amount and source of leakage.
- Event 7) Replace failure of auto and manual trip (too straight forward) with "SIAS fails to auto actuate"

#### Licensee:

Agree with comments.

### Scenario Spare

#### NRC Comments:

- General) Need to add expected actions for all three positions. Make this Scenario 2.
- Event 1 & 2) Count these as part of the same malfunction.
- Event 3) Can count as either a Normal OR Reactivity, but not both. Reference: ES-301, D.4.d. Need to add either a Normal, or Reactivity.

#### Licensee:

Agree with comments.

## **Basis for JPM Selection Changes**

1. Changed JPM SRO-B.1-3 from *Recirc BAST for Sample* to *Manually Initiate Safety Injection*

**Basis:** Difficulty and loss of realism in making recirculating a Boric Acid Storage Tank for sample into an alternate path JPM. *Manually Initiate Safety Injection* was substituted since it was more realistic and practical to use an alternate path, and because it is in the same safety function.

The alternate path strategy for the substitution JPM was subsequently discussed with the Chief Examiner, and agreed that the final form as an alternate path JPM, was improved.

2. Changed JPM RO-B.1-4 from *Alternate PLCS Controllers* to *Alternate PPCS Controllers*. Subsequently reselected to *Raise SIT Pressure* (same as current SRO JPM). Please see updated basis below.

**Basis:** Difficulty and loss of realism in making alternating Pressurizer Level Controllers an alternate path JPM. Additionally, there is a similar malfunction used in the Spare Simulator Scenario and it was considered overall the proper substitution to make in the case that the spare scenario is used.

Update: Further validation and scrutiny indicated that it was not possible to create a viable, procedurally driven, and realistic alternate path JPM for alternating Pressurizer pressure controllers. *Raise SIT Pressure* was selected due to a more realistic and procedurally driven alternate path JPM.

3. Changed JPM SRO-A.1-1 from *Authorize Key Checkout* to *Determine Risk Achievement Worth (RAW) score*.

**Basis:** It was agreed upon by both the NRC and the facility that the original JPM may not be discriminating enough nor have enough importance to warrant a failure if inadequate performance is observed. Determine Risk Achievement Worth was selected and discussed with the validation team and determined to have adequate importance and consequences.

4. Changed JPM SRO A.3 from *Approve a Batch Release* to 2 Radiation Protection questions (same as current RO JPM).

**Basis:** This has been previously discussed with the Chief Examiner. There may be an issue at Palisades for this particular task in the area of procedural guidance. During the validation of this JPM, it was indicated to the Exam Author by the validators that the procedural guidance on exactly how this task is to be performed could be improved for clarity. This issue is likely to be addressed through the Palisades Corrective Action process.

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	Back-ward	Q=K/A	SRO Only			
1C	H	3					X								U*	NEW NRC: Exam indicates correct answer is "d," but data sheet indicates "b." Reference indicates distractor "d (trip reactor) could be correct per ONP-5.1.
2C	H	4						X							U	NEW NRC: Not appropriate for RO, requires knowledge of TS bases.
3C	H	3						X							U*	BANK NRC: Not appropriate for RO, requires knowledge of EOP bases.
4C	H	3													S*	BANK
5C	F	3						X							S*	NEW
6C	H	2													S	BANK
7C	H	3													E*	BANK NRC: Only one correct answer, replace "most likely" in stem.
8C	H	3													E	BANK (99NRC) NRC: Only one correct answer, replace "most effective" in stem.
9C	H	2													S	BANK

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.
  - More than one distractor is not credible.
  - 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).
- Based on the reviewer's judgment, is the question as written (U)nacceptable (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).

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			
10C	F	2						X							U	NEW NRC: Not appropriate for RO, requires knowledge of TS bases.
11C	H	3													S	BANK
12C	H	2													E	MODIFIED NRC: Only one correct answer, replace "likely" in stem.
13C	H	3													S	BANK (99NRC)
14C	H	4													S*	NEW
15C	F	3													S	BANK
16C	F	2						X							U	BANK NRC: All answers are correct for question asked, reword stem.
17C	F	2													S	BANK
18C	F	3													S	BANK
19C	H	2	X	X	X										E	BANK NRC: Add "if any" to stem. Reword stem to ensure applicants understand that there is no CVCS flow (pumps are "off," and seal injection secured). Reword distractor PZR Level/VCT Level: b. Raise/Raise; c. Lower/Lower; d. Raise/Lower.
20C	H	3													E	BANK NRC: Stem should state, "...using Attachment 1, ONP-17..."
21C	F	3						X							E*	BANK NRC: "...would be acceptable per procedures." in stem implies memorization of procedural steps. Reword.
22C	F	3						X							U	NEW NRC: As written, question is straight forward and use of handout makes this a direct lookup. Rewrite stem.
23C	H	3						X							U	BANK NRC: "b." also correct based on Step 4.2.b of ONP 23.2.
24C	H	3													S	BANK
25C	F	2													S	BANK
26C	F	3													E	BANK NRC: Add valve descriptions.
27C	F	4													S	BANK
28C	F	4													E*	NEW NRC: The referenced procedure (HP-2.8, Section 5.7.2) does not support the "...evacuation..." statement in the stem, reword stem.
29C	H	3													E*	BANK NRC: Only one correct answer, replace "most significantly" in stem.

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		
30C	H	3												S	BANK (99NRC)
31C	F	4												S	NEW
32C	F	3												S	BANK
33C	FH	2												E	BANK NRC: Higher vice fundamental cognitive level.
34C	H	3												S	BANK
35C	H	2												S	BANK (00NRC)
36C	H	3												S	BANK
37C	H	3												S*	NEW
38C	H	3												S	BANK
39C	H	2										X		U	NEW NRC: Question doesn't cover KA part b.
40C	H	3												E	NEW NRC: Only one correct answer, replace "most" in stem.
41C	H	3												S	MODIFIED
42C	F	2												S	BANK
43C	F	3												S	BANK
44C	F	2												S	BANK
45C	F	3												S	BANK
46C	F	3				X								E*	BANK NRC: Distractor "a." justification says pressure is too high, but reference indicates it is too low. Distractor "d." justification says it is wrong because "boron" is too low, but there is no "boron" in the answer.
47C	F	2												S	BANK
48C	H	3												S	BANK
49C	H	3												S*	MODIFIED BANK NRC: This is not significantly modified.
50C	F	3												S*	NEW
51C	F	2												S	BANK

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		
52C	H	3												S	BANK
53C	F	3												S	<del>MODIFIED</del> BANK NRC: This is not significantly modified.
54C	H	4												S	NEW
55C	F	3												S	BANK NRC:
56C	H	3												S*	<del>MODIFIED</del> BANK NRC: This is not significantly modified.
57C	H	2					X							U	BANK NRC: Distractor "c." could be correct based on distractor justification reference which states that "overspeed is a concern when unloading the DG." The reference for answer "a." is for closing the offsite breaker, but the question is for opening the DG output breaker.
58C	F	2												S*	BANK
59C	F	2		X										E	BANK NRC: Correct answer "d." has same valve number as listed in the stem for the associated alarm. Delete the valve number from the answer.
60C	H	3						X				X		U	BANK This is not an appropriate RO question because it asks about a procedure transition. Question does not match KA. Question concerned with required actions/procedure transition. KA is for knowledge of bus power supplies.
61C	F	2		X										E	BANK NRC: Correct answer "c." uses the term "link" which is also used in the stem. None of the distractors uses the word.
62C	F	3		X										E	BANK NRC: Answer "a." stands out because it is the only choice that does not use the term "critical."
63C	F	2						X						E	BANK NRC: Remove the reference to TS, ask what is the Safety Limit for PCS in Mode 4.
64C	F	3												S*	BANK
65C	F	3												S	MODIFIED
66C	F	2												S	MODIFIED
67C	F	3												S	BANK
68C	F	2												S	BANK
69C	F	2												S	BANK
70C	H	2												S	BANK

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		
71C	H	2					X							U*	BANK NRC: Distractor "b." is also correct answer for plant cooldown using TBVs instead of ADVs for SGTL.
72C	F	2												E	BANK (99NRC) NRC: Exam indicates correct answer is "d," but data sheet indicates "c."
73C	H	3												S	BANK
74C	F	3												S	BANK
1S	H	3												S	BANK (95NRC)
2S	H	3												S*	NEW
3S	H	2	X									X		U*	MODIFIED BANK NRC: This is not significantly modified. Stem is not creditable because it references both LBLOCA and SBLOCA (SGTL). KA references a LBLOCA. Rewrite.
4S	H	2											X	U	NEW NRC: Question requires only system knowledge, not SRO Only type question. Rewrite.
5S	F	2												S*	NEW
6S	H	4												E	BANK NRC: Only one correct answer, replace "most" in stem.
7S	F	2											X	U	NEW NRC: Question requires only system knowledge, not SRO Only type question. Rewrite.
8S	H	4	X					X					X	U	MODIFIED NRC: Question requires only system knowledge, not SRO Only type question. Are given conditions current or 10 minutes ago? Distractors "b." (bubble forming) and "c." (SI flow matches break mass out) could also be correct for given conditions causing pressure to increase. Rewrite.
9S	H	2											X	U	NEW Question requires only system knowledge, not SRO Only type question. Rewrite.
10S	H	3												S*	NEW
11S	H	2											X	U*	BANK NRC: Question requires system alignment knowledge, not SRO Only knowledge. Rewrite.
12S	F	2											X	U*	BANK NRC: Question asking for Immediate Actions, not SRO Only knowledge. If it is SRO Only, provide reference. Rewrite.
13S	H	3												S	BANK
14S	H	3												S	BANK

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		
15S	H	3											X	U*	BANK NRC: Question requires system knowledge of rod insertion limits, not SRO Only type question. Rewrite.
16S	H	4												S	NEW
17S	H	2												S	BANK
18S	F	3												S	MODIFIED BANK NRC: This is not significantly modified.
19S	F	2												S	BANK
20S	H	3												S	NEW
21S	H	2												U*	NEW NRC: Not SRO only, asking subsequent actions. Rewrite.
22S	F	4				X								E	BANK NRC: Distractors "a." and "b." are too similar (NRC Resident Inspector and NRC Operations Center) such that if one was correct, then the other would also be correct. Replace "b." with something like RP Manager.
23S	F	2											X	U	BANK (99NRC) NRC: As written, question is not SRO Only knowledge because it is asking for TS entry condition. If it asks why 4 CETs are required to be operable, it would be SRO Only. Rewrite.
24S	H	3												S	MODIFIED
25S	H	4												S	NEW
26S	H	3											X	U	MODIFIED BANK NRC: This is not significantly modified. Systems knowledge, not SRO Only type question. Rewrite.
1R	HF	2												S	BANK NRC: Fundamental vice higher cognitive level.
2R	F	2										X		U	BANK NRC: Question does not match KA. KA asks for "reason," not "action."
3R	H	3												S	BANK (99NRC)
4R	H	3												S	BANK
5R	F	4												S	BANK
6R	H	3												E	MODIFIED BANK NRC: This is not significantly modified. Replace/delete word "true" in stem.
7R	H	4												S	BANK (89GFES)
8R	F	3						X						U	NEW NRC: ROs not required to memorize subsequent procedural steps.
9R	H	2												S	BANK

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	Back-ward	Q=K/A	SRO Only		
10R	H	4												S	NEW
11R	H	3												S*	BANK (00NRC)
12R	HF	42												S	BANK NRC: Fundamental vice higher cognitive level. LOD not level 4.
13R	HF	2												S	BANK NRC: Fundamental vice higher cognitive level.
14R	F	3												S*	BANK
15R	F	2												S*	BANK
16R	F	2												S	BANK
17R	F	2												S	MODIFIED BANK NRC: This is not significantly modified.
18R	H	3												S*	BANK
19R	H	3												S	BANK
20R	H	3												S	BANK
21R	H	4												S	BANK (00NRC)
22R	H	3										X		U*	BANK NRC: Question does not match KA. KA is about forming a steam bubble, question based on cooldown temperature.
23R	H	3												S	MODIFIED BANK NRC: This is not significantly modified.
24R	F	2												S	NEW
25R	H	2												S	NEW
26R	H	2												S	BANK

\* Part of 30 question review. Verified references and Kas.

NOTE: License accepted/incorporated all comments.

**SRO Cross Reference for Question Numbers**

1. C5	26. C9	51. S9	76. S26
2. C10	27. C55	52. S14	77. C23
3. C42	28. C71	53. C25	78. C24
4. C58	29. S20	54. C39	79. S6
5. C57	30. C2	55. C18	80. S16
6. C74	31. C17	56. C16	81. S25
7. C32	32. C59	57. C65	82. C31
8. C34	33. C53	58. C29	83. S22
9. C26	34. C43	59. S21	84. S10
10. C50	35. C44	60. C40	85. S15
11. C11	36. C27	61. C52	86. S3
12. C60	37. C21	62. C56	87. S24
13. C62	38. C22	63. C14	88. S23
14. C12	39. C49	64. C4	89. S17
15. C37	40. S5	65. C36	90. S12
16. C6	41. C38	66. S4	91. C64
17. C48	42. C46	67. S18	92. C63
18. C33	43. C51	68. S11	93. C72
19. C19	44. C15	69. C54	94. C73
20. C30	45. S19	70. C3	95. C70
21. C45	46. C67	71. S8	96. C35
22. C28	47. C1	72. S13	97. C61
23. C13	48. S1	73. C7	98. C66
24. C41	49. S2	74. C8	99. C68
25. C47	50. S7	75. C20	100. C69

**RO Cross Reference for  
Question Numbers**

1. C5	26. C9	51. R21	76. C14
2. C10	27. C55	52. C51	77. R24
3. C42	28. C71	53. C15	78. R26
4. C58	29. R23	54. R22	79. R11
5. C57	30. R17	55. C67	80. C4
6. C74	31. R14	56. C1	81. C36
7. C32	32. R15	57. R2	82. C54
8. C34	33. R16	58. R18	83. C3
9. C26	34. C53	59. R7	84. R3
10. C50	35. C59	60. C31	85. C7
11. C11	36. C2	61. R8	86. C8
12. C60	37. C17	62. R19	87. C20
13. C62	38. C43	63. C25	88. C23
14. C12	39. C44	64. C39	89. C24
15. C37	40. C27	65. C18	90. R13
16. C6	41. C21	66. R12	91. C64
17. C48	42. C22	67. R1	92. C63
18. C33	43. C49	68. C16	93. C72
19. C19	44. R5	69. C65	94. C73
20. C30	45. R10	70. C29	95. C70
21. C45	46. C38	71. R25	96. C35
22. C28	47. C46	72. R20	97. C61
23. C13	48. R9	73. C40	98. C66
24. C41	49. R6	74. C52	99. C68
25. C47	50. R4	75. C56	100. C69