

**NRC COMMENTS TO THE OPERATING TEST AND**

**WRITTEN EXAMINATION (ES-401-9)**

**FOR THE POINT BEACH INITIAL EXAMINATION - NOVEMBER 2005**

### Comments on Point Beach JPM's

JPM P015.005A: Admin JPM (Both)

Step 1: Have candidate determine reactor power, don't spoon feed him. *RE: delete reference to power in Cue.*

Steps 2, 3, &4: Delete, "if administering in simulator" since JPM will be administered in simulator. *RE: will delete references to simulator.*

Step 10: Why is there a range of correct power reduction? *RE: Due to error/tolerances from reading gages. 24 - 30 % calculated power acceptable range.*

JPM P001.001: Admin JPM (both)

Steps 3, 4, & 5: Evaluator note contradicts with examiner cue!!! Equipment in these steps will be manipulated! *RE: Will add "unless authorized" to evaluator note.*

Step 3: Blender Operations. Need to establish an acceptable range of water and/or acid settings. *RE: will include acceptable range.*

JPM P015.004: Admin JPM (both)

NOTE: During onsite validation, examiners identified a faulty Operator Select switch on N31. Needs to be repaired prior to exam day. *RE: Simulator staff will repair switch or exercise as necessary to guarantee correct operation.*

JPM P088.008: Admin JPM (RO)

NOTE: Why is it necessary to say wind direction is from the North, (towards Two Creeks)?? *RE: Will delete "towards Two Creeks."*

JPM P000.011: Admin JPM (SRO)

Gaseous Waste Discharge Permit attached to JPM has lineout of 1.35E-05 and replaced with "yesterday." Appears to be an incorrect lineout! *RE: No, this is a known longstanding chemistry workaround since they have been having problems with their computer output. Issue has been provided to RP inspectors for review. Licensee documented this issue on CR.*

JPM P028.001a: Admin JPM (SRO)

Licensee questioned the supporting regulations behind 15 minutes to classify and 15 minutes to notify. *RE: 15 minutes to classify the event is rooted in regulations via NUREG 99-02, Performance indicators. 15 minutes to notify is rooted in regulations via NUREG 0654 and the licensee's EP plan which is specified in the operating license. Will change cover sheet to reflect time critical evolution. Will change cue sheets to add, "This JPM is time critical."*

JPM P001.020: Simulator JPM

None

JPM P004.013: Simulator JPM

Step 4: Why isn't this step critical? You need cooling water to excess L/D Hx. *RE: Not a critical step since valve is already open!*

Step 10: How is the RCDT level determined? Computer point, PAB AO call? *RE: PAB AO will call CR with level reading. How much will PZR & VCT level drop due to this diversion?* *RE: The level change is small - not an issue!*

Step 18: Charging flow allowed to continue? Why not isolate? *RE: Charging flow is*

*dialed down to minimum.*

JPM P010.010: Simulator JPM

Step 10: Why not have 1PT-420 failed high prior to placing RC-430 LTOP key to ON? This would tell if the operator really knows what he is doing or just following a procedure. Discrimination. *RE: Good idea, but if operator sees failed PT, operator may not perform JPM.*

Step 11: How long will it take from the time the PORV opens until the #1 RCP seal DP Low Alarm annunciates (the failure criteria)? *RE: Timed at 55 seconds.*

Step 11: Need to add step from Conduct of Operations Manual that directs operator to take manual control when auto control fails. *RE: Done*

JPM P000.028:

Step 6: If candidate performs steps 17 and 18 of CSP-H.1, these steps would be incorrect. The candidate should proceed to step 19 (correct) and not perform steps 17 & 18. However, in either case, the candidate will still perform step 19 of CSP-H.1. The difference is that RCS pressure would be unnecessarily reduced to <1765 psig had the candidate performed the incorrect steps. Conclusion: This would warrant a comment for procedure adherence/panel monitoring but since there is no adverse consequence, this would not be a criteria for failure.

Step 19: Add evaluator due to open breaker for SGFP discharge valves when valves fully open. *RE: Done*

Step 20: No consideration as to whether SG is hot & dry prior to feed flow re-initiation. Procedure doesn't even check it. Why? Has an evaluation been done that says it is not a problem to put cold water into a hot/dry SG? *RE: Yes, this has been evaluated per EOP Revision 1C - OK to feed hot dry SG.*

Step 23: Not sure why this is a critical step? If flow path is established and a pump is running and S/G is depressurized level will be stable or increasing. Action is met with no effort. *RE: This is why step 22 is not critical. But need to have applicant complete step 23 to ensure JPM is completed.*

JPM P026.002:

Step 4: Why open the valve first then start the CS pump? Isn't there a concern with water hammer conditions? *RE: This is the sequence used for automatic pump start during SI actuation.*

Step 6: Is there a minimum NaOH flow rate? Should valve be full open? *RE: There is no minimum flow rate, valve is selected to full open. Flow rate is established by use of a preset throttle valve.*

JPM P062.013:

No comments.

JPM P015.011:

Step 4 & 6: Is gain pot really on drawer "B?" *RE: Yes*

Step 4: Why is it that the gain pot can be adjusted even though if it is locked in position? Sounds like a degraded condition in need of maintenance!

Attachment A: Why are N42, N43, & N44 marked N/A? The Examinee should mark these N/A if he or she see fit. *RE: JPM requires only that NI channel N41 be adjusted!*

JPM P000.015:

Cue Sheet: Why is it necessary to give candidate procedure to use? Shouldn't they demonstrate that they know how to get procedure? *RE: Candidate should demonstrate to examiner that he knows where to locate procedures. Must be done during an early JPM. Once demonstrated, need not be repeated.*

Step 7: We should not direct Examinee to NOT enter a procedure. During a real situation he needs to be able to decide which procedure to be in. *RE: Cue will reflect that another operator will perform Attachment A.*

In-Plant JPMS:

JPM P000.036b:

Step 3: Delete asterisk from Critical attribute and state, "pump is found running." Delete, "If pump found off..." *RE: Incorporated.*

Step 8: Which way will 2CV-361A be throttled to obtain 47psig? I assume open. *RE: Correct! Added comment to step 8.*

JPM P000.039:

Step 16: Ensure candidate operates the governor control switch to change frequency and not the voltage regulator switch! Ensure candidate looks at proper indications! *RE: Will change cue sheet such that after EDG starts, that frequency will be at 61 hz. This will necessitate candidate to adjust frequency.*

JPM P008.003:

Cue Sheet: Is it possible to observe a tube side through-wall leak? *RE: No! Will change to a shell side leak.*

## Scenario Comments

### Scenario #1:

Event #1: BOP should not receive credit as an instrument failure for this event since there is no diagnosis of the event. *RE: Will change D-1 sheet to reflect that BOP will receive credit for Normal for tripping bistables.*

Event #1, Page 3 of 5: Why have SRO turnover command and control? Why not let SRO remain in CR and have surrogate perform behind panel manipulations? OR, if surrogate takes command/control, ensure no changes to plant conditions for time SRO is gone! *RE: Will ensure no changes to plant for time SRO is gone. Surrogate will act for SRO during his short absence.*

Event #3: Does MFP temperature increase gradually or quickly. For example, if it increases slowly, will operators note increase in MFP bearing temperature during initial walkdown of simulator prior to taking watch? *RE: Slow ramp, won't be seen during initial setup/walkdown of simulator.*

Event #3: We do not want the main feed pump to trip before the power reduction. This is necessary to ensure we get a reactivity change. *RE: True! MFP won't trip.*

Event #4/5: Page 5, Verify RCS temperature control. Temperature should be low due to feedwater line break. What actions are required for this step? *RE: RCS temperature control is a continuous action step.*

Page 7: Scenario does not appear to go too far into the EOPs. Scenario is stopped prior to SI termination. See if there is any value in continuing the scenario into EOP 1, Loss of Reactor or Secondary Coolant. *RE: Add EOP 1.1 steps up to step 12. We will evaluate into EOP 1.1.*

### Scenario #2:

Event #2: Which trip bistable(s) can be removed that would cause a Rx Trip? They should be specified in Applicants Action column on page 3 of 4! *RE: SRO has already demonstrated ability to remove control power fuses during previous scenario. Can't remove bistables during this scenario since it will cause a reactor trip. SRO should not leave control room to pull fuses - will follow TS requirement to shutdown instead.*

Event #3: Do actions in AOP-24, "Response to Instrument Malfunctions," allow the BOP to place the FWRV back in AUTO? If not, then BOP will be 'attached' to the panel for the rest of the scenario (until the major). *RE: The FWRV will not be placed back into AUTO. Operator will need to monitor SGWL until major event is put in - next step.*

Events #4, 5 , 6, 7: (Page 5 of 13): Is an auto trip of the RCP plausible? The crew should trip the affected RCP rather than the RCP auto trip. *RE: During onsite validation, crew tripped RCP prior to auto trip.*

(Page 10 of 13): Evaluate continuing scenario until after cooldown/depressurization has been initiated per EOP 1.2. *RE: Examiners will determine if enough crew has had enough material to be evaluated on.*

### Scenario #3

Event #2: I assume that the SRO will remain in the controls area for removing of fuses.  
*RE: SRO will turnover watch to surrogate, exit CR to supervise evolution, then return.  
No events will happen while SRO is outside CR.*

Event #3: Determine if the BOP operates any equipment during this event! The way this event is written, it sounds like the BOP could just watch and do nothing in response to this event. *RE: BOP has to start standby fans in sequence.*

Event #4: I don't believe there are sufficient actions/manipulations for the RO and BOP to do during this event. I suggest that the EDG start and NOT load onto the bus. This will allow the BOP operator to perform an action - close the breaker. We will need to delete 'ALL' from the D-1 sheet and replace it with a 'BOP - C' designator. We will need to add an additional event for the RO to ensure we meet our bean count! *RE: BOP must realign pumps/valves for blender operations on the back panel. RO must reposition switch and adjust charging flow. Its minimal - but evaluable!!*

Event #5, D-1 sheet: Remove 'G03 fails to start' and add to Event 4. Need to add some failure to Event #5. Perhaps containment isolation valves fail to close (see page 2 of 9).  
*RE: Simulator scenario ran fine as written. Don't make this change.*

Event 5, 6, Page 9 of 9: Why is emergency boration a critical step? Don't you have to wait till cooldown? *RE: It is required to initiate boration due to two stuck rods prior to exiting EOP 0.1.*

### Scenario 4

This scenario does not have enough component/instrument failure events for the RO!  
This scenario does not have any TS calls for SRO - must ensure that all SRO beans for TS have been met prior to running this scenario on SRO candidates!

Event #2: The D-1 sheet has this event as a reactivity change for the RO position. Need to verify that the RO changes power during this event. Otherwise, need to put in reactivity change and change D-1 sheet. *RE: We did not believe that the RO did anything in this position to warrant a credit for reactivity change. If this spare scenario is used, we will need to add a bean for reactivity change.*

Similarly, the D-1 sheet has Event 2 as BOP action. Need to verify BOP has actions for this event to ensure we meet our bean count! *RE: BOP had some actions on the panels associated with main feedwater.*

Events 3, 4, & 5, Page 4 of 12: Will 'A' SG FWP trip during performance of Attachment A? It shouldn't so they have to deal with a faulted SG and an overfeed condition. *RE: Both SGFWPs will be tripped IAW Attachment A of EOP-0.*

Events 3, 4, & 5, Page 6 of 12: Can't control RCS temperature if both SG's are faulted!  
*RE: True, there is a continuous action step to verify RCS temperature control. This is accomplished by restricting FW flow to SGs.*

Events 3, 4, & 5, Page 7 of 12: Will MFP be tripped before step on top of pg 7? If not, will they be able to locally shut the FRV or Isolation valves? Is this possible with MFP running and generating such a high d/p? *RE: Operators will be able to close the MFP discharge isolation valves with a high d/p.*

Events 3, 4, & 5, Page 7 of 12: "Control Feed flow to minimize cooldown." Will there be a transition to FR-P.1 at this step? If not, why not? *RE: No, there will be no transition to FR-P.1 due to the procedure sending you back to EOP-1, Loss of Secondary Coolant.*

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 Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A		
1	H	2										S	
2	H	2										S	
3	H	2										S	
4	F	3										S	
5	F	3										S	
6	F	2										S	
7	F	3										S	
8	H	3									E	TRM 2.11.3: Applicability: Mode 1. Suggest adding .."Rx is in Mode 1" RE: Added mode 1 to initial conditions.	
9	F	3									S		
10	F	3									S		

## 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	Back-ward	Q= K/A	SRO Only	
34	H	3											S	
35	H	2											S	
36	F	3											S	
37	F	2											S	
38	H	3											S	
39	H	3											S	
40	F	3											S	
41	F	2										X	E	Per 10CFR55.43, SRO only must know information in TS Basis. Need other reference taught that states 1 CS pump and 2 fans needed to prevent exceeding ctmt design pressure. Lesson plan provided as reference? RE: Provided different references.
42	F	3										X	E	Per 10CFR55.43, SRO only must know information in TS Basis. Need other reference that taught purpose of spray additive. RE: Provided different references.
43	H	3											S	
44	H	3											S	
45	F	3											S	
46	F	2											S	
47	F	2											S	
48	F	2											S	
49	F	4											S	LOK is higher not fundamental (memory). RE: LOK lower due to 2 lower discrete memory items. Delete maintenance portion of activity? RE: Will keep maintenance activity in question.
50	H	3											E	Capitalize BOTH and ONLY in distractors. RE: Done

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	
51	H	3										S	K/A requires operate/monitor from control room. Is RMS system server in CR? RE: RMS System server is in CR. No changes required.		
52	F	2										E	Capitalize AND in D distractor. RE: Done.!		
53	F	2										S			
54	H	2										E	Human Factors: Change choices from letters to numbers or double indent? RE: Changed letters to numbers and double indented.		
55	H	2										X	U	10CFR55.43, SRO only question references TS Bases section. Operability calls are made by SROs, not Ros. RE: Changed question to have RO contact SRO for operability evaluation. Does 2 loose bolts inop ctmt? RE: Different design, two loose bolts <u>will</u> inop ctmt!	
56	H	3										S			
57	F	2	X									E		Delete first paragraph of Q. (Except, During natural circulation...) RE: First paragraph deleted. Also LOK is memory not higher! RE: LOK is higher due to how taught	
58	H	3										S			
59	H	3										S			
60	H	2										S			
61	F	1										U		LOD too low! Hydrogen and air used in same sentence. Not sufficiently discriminating. Don't mention Hydrogen, call it cooling gas? RE: Changed hydrogen to 'cooling gas.'	
62	H	2										S			
63	F	2										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	Back-ward	Q= K/A	SRO Only
18	H	3										S	
19	H	2										S	
20	F	2										S	
21	H	2										S	
22	F	2				X						U	D is also correct. RE: changed 'D' distractor. Also, bolded 'determines' in stem.
23	H	2										S	
24	F	2										S	
25	H	3										U	This question is also asked by an Admin JPM for the SROs. Suggest replacing/repicking question. RE: Replaced question, same K/A.

The following were the 30 exam questions initially reviewed:

Questions 5 - 10, 20 - 25, 40 - 45, 55 - 60, 70 - 75, SRO questions 10 - 15.

Included in the review of these sample questions, the chief examiner also reviewed references for why the correct distractor was correct and why the incorrect distractors were incorrect. In addition, all questions received a K/A review/conformance with ES-402 outline. This sample generated 10 comments.