NRC Written Exam Analysis

NRC written validation scores				
	RO section, Target 75-90%	SRO section Target 65-85%	Time	
Deer	77.3	68	3 hrs, 40 min	
Roll	76.0	56	4 hrs, 10 min	
Mully	84.0	68	4 hrs	
Bradford	80.0		2 hrs, 24 min	
Manter	66.6		2 hrs, 24 min	
Avg scores, 1st validation	76.78	64		
Jennison	87.5 Pro-rated	60	2 hrs, 45 min	25 SRO / 40 RO questions taken
Inserra	82.6		3 hrs, 20 min	
M. DeOssie	80		3 hrs, 5 min	
Favreau	73.3	80	3 hrs, 15 min	
Ferrizzi	88	64	3 hrs, 50 min	
Avg scores, 2nd validation	82.28	68		
Avg scores, Overall	79.53	66		

***The initials below belong to the validater's followed by what incorrect answers they chose and, if it's important, why they chose it.

1. No misses on 2nd validation.
100% Miss. BM/VR- A, DD/JM/AB- B. (NRC: Suggested changes made.) Typically RWCU or CRD are the systems used to stop stratification. OP 2110, does list using a depressurization but the stem states that that's already in progress. Could we ask "/actions *is currently* minimizing the difference…"? That eliminates RWCU being reset for use and as the key suggests that CRD isn't being raised or lowered so that should be eliminated. There's a bit that they are inferring here to try and solve this problem.

Another way to ask this is remove the stem and offer "raise CRD flow, lower RWCU flow, maximize DW cooling, etc. as distracters. Also, 1st bullet should state: "Generator Load Reject".

2. VF- C.
JM- D.

3. DF- B.
AB- C, JM- B. (NRC: Left question as-is.)
Valid – Both couldn't remember the logic P/S.
All answers say the breaker can't be operated from the CR, move to stem or question or add "can" as distracter.
Also, A-B reorged on NRC incorrectly, answers should flow 'A' pump then 'C' pump.

4. DF- C, MD- A.
60% Miss. JM- B, DD/AB- C. (NRC: Left question as-is.)
Guys had trouble with the wording here.

5. AB- C.
Valid – Had trouble with the math.
A-B re-org'd on NRC incorrectly, not sequential logic.

6. MD- B.
AB- B. Valid.

7. Valid.

8. JM- A. Valid.

9. Valid. Ans. 'A' should include RCU letdown for both CRD and Cond't xfer modes

10. No miss.
AB/VR- B. (NRC: Replaced with new question.)
Two operators brought up the location of the RBV Rad Mon being two floors below the refuel floor and both sets of PRM's coming in seems implausible. The UFSAR refueling accident is silent on the isolation and assumes that the rad release to the environs is instantaneous, section 14.6.4.3.2, with the total release happening over two hours. This seems to indicate no isolation of the system. The operators point is that this large gas bubble would likely be seen by the refuel floor PRM first, we'd isolate on Gp III and the RBV PRM's would never see the rads. [Our DBD's (design basis documents) don't talk to the isolation against various accidents, only that the PRM system protects against exceeding 10CFR100 or AST limits.] The T.S. and our LOT don't specify the isolation mechanism. Can we modify 'D' to "monitors *or* the reactor…" Does that oversimplify this?
JT says: Can we get another question for this K/A?

11. Valid.

12. Valid. Should be CRS vs Unit Supervisor

13. VR/DD- n/a.
Two SRO's did not answer this on the first validation saying there was no correct answer. I revised the conditions to be correct as we did with the HCTL graph.

14. **60% Miss**. JM- D, BM/AB- C.
Guys struggle with EQ vs. design temp limit. I believe this to be Valid.

15. FA- B.
VF/DF- B. On ans 'B' add in the Torus *post LOCA.*
BM- B, AB- C but like B as well.
You reworded this to where I see it as Valid.

16. VR- A. Valid.

17. VF/NJ- C. add.... statements is correct *for the above conditions*?
Valid. (NRC: K/A mismatch identified by NRC – replaced with new question.)

18. FA- A.
60% Miss. DF/MD- B, FI- D.
60% Miss. DD/AB/JM- B. NRC: Reworded question to eliminate double jeopardy with Q72.)
One guy thought this was double jeopardy with #72.

19. **60% Miss**. VR/DD/AB- A. (NRC: Left question as-is.)
Guys put themselves in the position of the F.B. Leader as to de-energizing the MCC. This will come down to 'A' and 'C' must and should.

20. FA- B.
DF- D, VF/FI- B. Guys thought answer 'C' should have a comma after 'AT ENGINE' instead of a period as this is supposed to be one long set of actions. I had previously broken it out from how you had it previously.
JM- B. Valid. (NRC: Justification for answer choice 'C' revised.)
Correct answer 'C', justification is for another question.

21. Valid.

22. **60% Miss**. VR/BM/JM- A. Valid.
The first two evaluators saw the old version of this.

23. **60% Miss**. DD- n/a, BM- C, VR- A.
We had the wrong #'s on the first validation. The RO's saw the corrected numbers and had no trouble with it. I believe this to be Valid.

24. JM- D. Valid.
BLS:TM says: EOP-3 used 23 ft., changed to that.

25. Valid.

26. Valid.

27. DF/MD- C.
60% Miss. VR/DD/AB- B. Valid. (NRC: Left question as-is.)
Some confusion on what constitutes the system given it's interconnections. This is the UFSAR description.
JT says: Can this be swapped out to EOP-3 H2 entry condition or another to answer K/A?

28. DF- A.
AB- A. Valid.
JT says: Must perform >45 VDC so we should not at <45 VDC?

29. Valid.

30. Valid.

31. Chris, I was wrong on the 'flow' position since I looked at it based on what you guys probably used which was the desktop simulator. It shows only the LPRM count switch and not the APRM mode switch. The correct position should be Standby'. See LOT-03-215, transparency #16. Valid. Remove 'While attempting to check LPRM inputs'.
Should be the "flow" or "count" position I made it "flow"

32. MD- D.
JM- D. Valid.

33. **100% Miss**. FI/MD- D, DF/VF/NJ- B. But I still believe this to be valid.
All thought an initial guy should get this if we're only talking ON-3164 actions. As active licenses they all wanted to address level and containment.
JM- D. Valid.

34. DD- C. Valid.
JT says: 'D' may be plausible since you're now cross-tied to another loops 27 vlv that could have been opened too quickly.

35. Valid.

36. FA- A.
DF- C, FI/VF- A, NJ- D.
JM- D. Valid.

37. Valid.

JT says: The 905 alarm is a decent implausible since it indicates a problem with continuity.

38. VF- C, DF- B, NJ- A. In 'D' change bypassed to disabled.
Valid.

39. DF/MD/NJ- A.
AB/JM- C.
They had trouble with upscale/inop trip. I believe this to be Valid.

40. FA- D.
JM- D. Valid. (NRC: Changed answer 'C' justification.)
TM says: Answer 'C', justification should be 100 cps vs. 160 cps.

41. VR- B. Valid.

42. Valid.

43. FA- A.
VF- B, DF- C.
80% Miss. BM/AB- A, VR/DD- C.
I believe this to be Valid as LOI candidates should be able to remember this info.

44. One validators pointed out that +80 inches 'above the top of active fuel' is actually 86 inches. Removing 'above the top of active fuel' matches the justification better. Valid.

45. VF- B.
VR- B. Valid.
I added numbers from desktop sim for a 12% RV leak. For validity.

46. FA- C.
DF- B. Guys nuked it out. But this is a tougher question to be sure.
100% Miss. (3) SRO's / (2) RO's- C. (NRC: Replaced with new question.)
On exam review all op's questioned the affect of vital on the HPCI suction swap.
BLS: Review and confirm this. Can we come up with another power supply loss to FWLC/HPCI? Loss of DC takes out all Hi level trips for H.P. feed.
BLS: ON 3168 has no mention of this. OP 2144 (2145 is listed incorrectly as a reference). Sim is not modeled like this.
JT says: New question? Loss of vital affect on FRV's for instance.

47. MD- B.
JM- B. Valid.

48. FA- C.
FI- A, DF/MD- C. Guys thought that initial candidates would know this.

VR/BM- D. Valid.
You added: "No other alarms in" on latest revision and the RO's that saw it with that change had no trouble.

49. Valid.

50. DD- A. Valid.

51. FA- B.
FI- C. Good question.
100% Miss. BM/DD/AB- A, JM- B, VR- C. (NRC: Replaced with new question.)
Guys couldn't guess the right answer. Can we better meet the K/A here?
Does this discriminate a safe operator?
Both RO's guessed on this one.
BLS: Reference NUREG 1021, App 'B' section on Operational Significance.

52. Changed 'D' to read 'The compressor tripped on high outlet temperature on the low pressure stage.'
60% Miss. BM/AB- B, JM- C. (NRC: Modified question to incorporate JT comments.)
Guys didn't like the word flow in 'D' which you took comments on.
CN will reword.
JT says: Is this 446° and 456° minutia? Can we boost 456° to 480° and oil press 25# oil pressure so it's further from LO set point?

53. DF- D, FI- A. This was determined to be a 4.0 breaker for power to the 117 valve. I think LOI candidates can nuke it out.
DD- D, JM- A. (NRC: Left question as-is.)
These two struggled with power supply to RCW-117. I think LOI candidates will know this.

54. Valid.

55. Valid.

56. DF- C.
Valid. (NRC: Left question as-is.)
JT says: Noone missed this but should we mention ball vlv closing?

57. We had added 'unreliable' previously and I added 'may be' as this is how the EOP study guide reads, See OPPP-07018 Attachment 9 ,page 17/347. FA- B.
DF- B.
JM- B. Valid. (NRC: Left question as-is.)
I didn't provide the reference here on the second validation, my fault. The RO would have gotten this with the reference.
JT says: 'A' should say that it can be used if not deemed unstable.

58. MD- C.
AB/JM- C. Valid. (NRC: Combined two bullets in stem to simplify.)
Two RO's had trouble with bus assignments.
JT says: Why do we state that 'D' RHR was started, it's not germane to problem? It doesn't affect outcome at all.

59. FI- D. Valid.
80% Miss. BM/DD/JM- A, VR- C. (NRC: Replaced with new question.)
The one operator to get it right guessed.
I added "component or system"...thermal stress to the stem to try and clarify this.
TM says: This is asked in vague terms.
In the listed reference LOT-00-300 U could find no mention of M.S. line bellows. LOT-00-223, Primary Containments list the M.S. bellows but there is no objective link. Can we write something else against this K/A?
JT says: Can we ask about why we cycle HPCI or Main Steam Vlvs on a cooldown?

60. DD- B. Valid.

61. MD- A.
DD- A. Valid. (NRC: Modified distracter 'B' – changed 'high' to 'low'.)
Δ in stem.
TM says: Recent OE at VY may have them choose 'B'.
JT says: Can 'B' distracter be changed as it's similar to 'D'. Also, recent OE makes 'B' look quite plausible.

62. Valid. (NRC: Reworded question to improve flow.)
The sequencing is tough here. We have an event, then state, "5 min later," then ask "immediately" what is happening, then ask, "6 min later". Can it be reworded to flow better?

63. Valid.
BLS Review.

64. BLS: Added correct justifications.
FI- D. This was declared invalid on a recent LOR weekly quiz. The second part of the question is okay. Reference is LOT-00-288, page 40 of 60. Can we ask this as follows and retain 'C' as a correct answer:

An event has occurred that results in the Control Room Supervisor ordering Control Room ventilation placed in the Emergency Mode.
The reason for this is___1.___ and all control room air will be ___2._____.

A. for control room habitability/ exhausted
B. for control room temperature control/ exhausted
C. for control room habitability/ recirculated
D. for control room temperature control/ exhausted
Valid.

65. MD- C.
Valid. (NRC: Left question as-is.)
BLS: Add name of S-18B, "RHR Logic Cntmnt Spray Vlv Shroud Lvl OVRD".

66. I reordered the answer/distracters to the correct order IAW OPOP-ALTSD-3126 operator immediate actions.
VR- A. Valid.

67. BM- D. Valid.
TM says: Does this discriminate? Also, it's a 3 part question, can it be a 2 parter as it would still be HCO.

68. FI- A.
Valid.

69. Valid.

70. DF- A, MD- D.
JM- C. Valid.

71. MD- A, FI- D.
VR- n/a, JM- A. Valid. (NRC: Left question as-is.)
JT says: Can we come up with less obscure question?

72. Valid.

73. FI- D.
Valid.

74. DF/FI- C.
Valid.

75. Valid.

76. DD- D. Valid.

77. BM- B. Valid.
BLS: List references available behind #78.

78. Valid.

79. NJ- A.
Valid. (NRC: Fixed BLS comment.)
BLS: Verify 'D' as long as the rest.

80. Valid.
81. Last bullet. I removed reference to condensate transfer since with both start-up transformers OOS, the non-vital power to condensate transfer is not available. There's no affect to the distracters as a result. You still have to correctly determine that fire water is an alternate injection subsystem. Also, distracter 'D' should read SAG-1 not SAMG. FA- B.
NJ/VF- B.
Valid.

82. VF- A.
66% Miss. VR/DD- A. (NRC: Left question as-is.)
I believe this to be Valid.
Guys got that the EDG was inop but apparently misread the T.S.

83. Made editorials as discussed. Spacing between bullets for candidate placekeeping/notes and added OP 2125 to question. KM- B.
VF- B. This is a hard question for an active license to validate as it's in a format that we routinely ask SAG questions to have them make a specific containment venting decision. They don't recognize this as the 3rd step in the containment H2 leg of EOP-3. I believe an initial license candidate will get this but it is still a difficult question.
66% Miss. VR/DD- B. Valid but higher order. (NRC: Left question as-is.)
Revise actual question.
BLS: Verify this.

84. DF/VF- C.
66% Miss. (NRC: Modified stem and distracters.) VR- n/a, DD- C. Guys missed that there's no need to scram at this. I believe this Prx. to be Valid.
Much revision.
BLS: Be sure we use their version. Verify when transfer from aux to SUT's is made.

85. On distracter 'C' replaced 'suppression pool' with 'Torus' IAW VY nomenclature and added 'with all available cooling' to indicate that action has been attempted to correct the torus temperature. AddKM- C.
No miss with the availability/reference to references.
100% Miss. VR/DD- A, BM- C. (NRC: Included availability of graphs for reference.)

Two issues here: 1) Guys weren't sure of what the problem was. 2) I didn't provide T.S. 3.7 to them. I'd like to see how this revalidates the next time.
We should have a reference for this.
TM says: We need OP 2115 Operator aid here and should make level 11.30.

86. Added RPV level and pressure so operators are not making an assumption on HVAC/SBGT reset. NJ- D, DF- A.
Valid.
Are we still low on level here?

87. In the stem, we now say that the 117 valve is fully closed as that makes a clear entry into OPON-3147. Took the first two bullets from 'C' and put in 'A' to observe question logic flow of indication then procedure direction and we are not asking them to determineFA- A.
NJ- D. Still thought to be a difficult question.
100% Miss. DD- A, VR/BM- D. (NRC: Revised entire question and answers to clarify and simplify.)
They didn't like this on two fronts: Being asked about first two min of vlv closure and first two abnormals to be executed. Can we better answer this K/A?
BLS: Review this – is it valid? Are we still limiting their knowledge and experience to two minutes and two procedures unnecessarily? Who care?
JT says: Question is too busy and is it operationally valid? Poor question.

88. We changed the actual question to reflect our IRM rod block Tech Spec change and still make it a SRO two part question. FA/KM- A.
NJ- A. For the actual question ask 'requirements for *which ONE of the following?*
100% Miss. DD- n/a, VR/BM- C. (NRC: Replaced with new question.)
Not valid to ask this w/o T.S. as a reference.

89. Add after the question (Note hot EAL's provided)
Valid. Wordy but it works.

90. See question #90 proposed as a separate document. FA- C.
NJ- B, DF- C. All SRO's previously and on yesterdays validation thought it was to know the 1 hour/4hour time requirements. No trouble with the second part of the answer/distracters Thought to be a difficult question.
DD- B. Valid.

91. Chris Newport is looking at this one.KM- C.
NJ/VF- C. Still a very challenging tech Spec question.
66% Miss. DD- A, VR- B. (NRC: Changed stem to include 'off of MSL A'.)
Challenging even with T.S.
BLS: Verify names of 121A/C.

92. NJ- B.
VR- B. Valid.

93. Changed 'C' and 'D' distracters to '1 through 3 ONLY' FA- C.
66% Miss. VR/BM- A. (NRC: Modified wording of question to reduce wording.)
Guys had trouble with some of the wording - "examples of" – but more importantly the correct procedure. I believe this to be Valid.
JT says: This is very wordy. Can it be revised to have less information?

94. VF- A.
Valid.

95. NJ/VF- D.
66% Miss. VR/BM- D. (NRC: Revised all answer choices to include both blade guide and fuel support casting removal.)
The other SRO is an almost permanent refueling SRO so I'm not sure others would get this. This is HCO.
Can we add to this the additional step as per OP 1417 that the blade guide is removed after the rod is fully withdrawn?

96. Valid.

97. !00% miss the second validation. DF/NJ/VF- B. Thought to be a difficult question.
100% Miss. VR/DD/BM- D. (NRC: Left question as-is.)
This may be minutia given the K/A. Can it be answered another way?
Could be toxic question, ie not operationally valid with procedure.
On the 2005 VY NRC exam we had 4 SRO's get this and one miss it. Definitely HCO.
JT says: Can we give them AP 096 for this?

98. KM- A.
VF- A.
BM- A. Valid.

99. BM- C. Valid.
The SRO that got this wrong didn't get the req'd EAL reference.

100. BM- B. Valid.