IP2 written changes, 2/10/03

- Q17 Check to see if appealable based on fact that SDB is not usually moved at power. SME says okay Q. No change. SUBSEQUENTLY REPLACED
- Q19 Made changes on distractor wording. SUBSEQUENTLY REPLACED
- Q23 Checked Double Jeopardy with JPM P3. Deemed okay.
- Q24 Check if air start in some way could be considered and cause 2 correct answers. SME says Q okay. Enhanced distractors A and B
- Q28 Discuss with SRO. Discriminatory? Modified question to raise discriminatory level as per SRO SME suggestion
- Q31 Check KA match. Can recorders be used to check Ctmt pressure for recombiner operation? Yes, but recombiners not used in that way anymore. Talk to Chief Examiner, possibly keep Question for different topic. Put actual KA on topic, makes it 013 A4.03. This will keep the ES-401-4 criteria to within the +/- 1 limit on each outline. Tier 2 Group 1 for RO and SRO will have 1 item more than required. Tier 2 Group 2 for SRO and tier 2 Group 3 for RO will have 1 item less than required.
- Q32 Added information to distractor C to make symmetrical.
- Q44 Added information to A to clarify
- R79 Changed A to clarify and remove chance of partial correct.
- R82 Too easy. Made more difficult by requiring knowledge of additional sources.
- R83 Question about pump auto start. Whether D would be a correct answer. Joe D had comments, check with him. Did not update. Check with Chief Examiner. Added clarifying information to explanation and checked with SRO SME to check validity of question. Says okay
- R84 Replaced based on IP3 review comment (Common between plants.) Used new KA and developed new question
- R93 Look at, maybe C is correct. Yes, changed answer key.
- R97 Question may not have good discriminatory value. Maybe make like IP3 question. Will modify
- R99 See if expert thinks too easy. Possible replace with PSP. SME does not think too easy. No change

S73 Minor enhance

- S75 See expert to see if good SRO question. Possible replace if not SRO. Replaced with new topic, same generic KA. Changed system. Used significantly modified facility bank question
- S76 Simple theory, not SRO? We did not take credit for. No change necessary
- S81 Direct lookup? Change procedural conditions, give whole procedure as a reference.
- S84 Simple theory, not SRO. We did not take credit for SRO. No change.
- S85 Does not like the question. Change KA and get a new SRO question. Replaced with new topic 2.4.4 and Vendor Bank question previously used on NRC exam
- S86 Who is actually responsible, HP or an SRO? SME says to replace. Replaced with new KA topic 2.4.6, used vendor bank question previously used on NRC exam
- S97 Minor enhance
- S99 Minor enhance distractor B
- S100 Changed distractors to be more plausible. Made change to test item, changed correct answer after Audit exam review revealed item too close to item on Audit exam

IP2 Written changes completed 2/27/2003

- C1 Modified stem to change answer
- C2 Changed all distractors and correct answer
- C3 Changed conditions in stem to change correct answer
- C4 Changed question. Used Vendor Bank question
- C5 Changed question. Used Vendor Bank question
- C6 Changed question. Used Vendor Bank question
- C7 Changed conditions and distractors to yield different answer
- C8 Changed question. Used Modified Facility Bank question

- C9 Changed question. Developed new question
- C10 Changed conditions to change answer

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- C11 Changed context of question, same topic
- C12 No change necessary, item NOT compromised
- C13 Changed question based on NRC feedback from IP3. This item was NOT compromised and was not replaced with the 2/27 changes.
- C14 Changed conditions to change answer
- C15 Changed context. Same topic
- C16 Changed correct answer to another selection
- C17 Changed question. Used Modified Facility Bank question
- C18 Changed question. Changed context same topic
- C19 Changed conditions to change correct answer
- C20 Changed conditions to change correct answer
- C21 Changed conditions and distractors to change correct answer
- C22 Changed context. Same topic
- C23 No change required. Item NOT compromised
- C24 No change required. Item NOT compromised
- C25 Changed question. New KA topic selected, used Vendor Bank question

Initial NRC License Examination Indian Point Unit 2 Written Test Item Summary Senior Reactor Operator

Question	K/A	Source	Cognitive	Comments
#				
1	003 A3.04	New	Higher	
2	003 K4.04	Bank	Higher	
3	004 K6.17	Bank	Higher	
4	013 A1.01	Bank	Memory	
5	015 K5.02	Bank	Higher	
6	017 A4.01	Bank	Memory	
7	022 A4.04	New	Memory	
8	059 K4.19	Modified	Higher	
9	059 A4.03	New	Memory	
10	061 K6.02	Bank	Higher	
11	071 K5.04	Modified	Memory	
12	072 A3.01	New	Memory	
13	006 K2.04	Modified	Higher	
14	010 A3.02	New	Higher	
15	011 K2.02	New	Memory	
16	012 K5.01	Bank	Memory	
17	014 A4.01	Modified	Higher	
18	026 A1.01	New	Memory	
19	033 A2.02	New	Higher	
20	035 G2.4.4	New	Higher	
21	039 K1.06	Bank	Higher	
22	055 K3.01	Modified	Higher	
23	063 K1.03	New	Memory	
24	063 K3.02	Bank	Higher	
25	064 A1.08	Bank	Higher	
26	062 K1.03	Bank	Higher	
27	012 G2.4.12	New	Memory	
28	079 K1.01	New	Higher	
29	086 K4.07	Bank	Memory	
30	005 A2.02	Modified	Higher	
31	013 A4.02	New	Memory	
32	034 K4.02	New	Memory	
33	041 A3.03	New	Higher	
34	G2.1.8	Bank	Memory	
35	G2.2.13	Bank	Memory	
36	G2.2.33	Modified	Higher	
37	G2.2.2	Modified	Higher	
38	G2.3.9	New	Memory	
39	G2.4.19	New	Memory	
40	G2.4.29	Bank	Memory	
41	005 AK1.03	Bank	Higher	
42	E09 EK3.1	Bank	Memory	
43	024 AA2.04	Bank	Higher	
44	026 AK3.03	Bank	Memory	
45	027 AA2.15	New	Higher	
46	040 AK1.06	Bank	Higher	
47	040 EA1.2	Bank	Memory	
48	051 AA1.04	Bank	Higher	
49	055 EA2.01	Bank	Higher	
50	057 AK3.01	New	Higher	

Initial NRC License Examination Indian Point Unit 2 Written Test Item Summary Senior Reactor Operator

S1 062 AA2.01 Bank Higher 52 015/017 AA1.22 Bank Higher 53 074 EK1.05 Modified Memory 54 074 EK1.2 Bank Memory 55 075 EA1.2 Bank Memory 56 076 AA2.02 Bank Memory 57 001 AA1.05 New Memory 58 003 AK2.05 New Higher 60 009 EA1.18 New Higher 61 011 EA1.01 Modified Memory 62 E01/f02 EK3.2 Bank Migher 64 025 AA2.07 Bank Higher 66 065 G2.1.2 New Memory 67 038 AA2.03 Modified Memory 68 061 AA1.01 Bank Higher 70 028 AK3.02 New Higher 71 036 AA2.51 New Higher 72 054 G2.2.5 New Memory	<u> </u>		Semi	JI Reactor Operator	
32 015/017 AA1,22 Bank Higher 53 074 EK1.05 Modified Higher 54 074 EK1.02 Bank Memory 55 075 EA1.2 Bank Memory 56 076 AA2.02 Bank Memory 57 001 AA1.05 New Memory 58 003 AK2.02 Bank Higher 60 009 EA1.18 New Higher 61 011 EA1.01 Modified Memory 62 E01/F02 EK3.2 Bank Memory 63 022 AA1.08 Bank Higher 64 025 AA2.07 Bank Memory 65 054 G24.2 Bank Higher 66 065 Q21.2 New Higher 70 058 AK2.03 Modified Memory 68 061 AA1.01 Bank Higher 71 036 AA2.1 New Higher 72 054 G2.2.25 New Higher	51	062 AA2.01	Bank	Higher	
33 074 EK1.05 Modified Higher 54 074 EK1.05 Modified Memory 55 075 EA1.2 Bank Memory 56 076 A2.02 Bank Memory 57 001 AA1.05 New Memory 58 003 AK2.05 New Higher 59 008 AK2.02 Bank Higher 60 009 EA1.18 New Higher 61 011 EA1.01 Modified Memory 62 E01/E02 EK3.2 Bank Memory 63 022 AA1.08 Bank Higher 64 025 AA2.07 Bank Memory 65 054 G2.4.2 Bank Memory 66 065 G2.1.2 New Memory 67 058 AA2.03 Modified Memory 68 061 AA.101 Bank Higher 70 028 AK3.02 New Higher 71 036 A2.2.15 New Higher <td>52</td> <td>015/017 AA1.22</td> <td>Bank</td> <td>Higher</td> <td></td>	52	015/017 AA1.22	Bank	Higher	
34 074 ER1.3 Modified Memory 55 075 EA1.2 Bank Memory 56 076 AA2.02 Bank Memory 57 001 AA1.05 New Memory 58 003 AK2.02 Bank Higher 59 008 AK2.02 Bank Higher 60 009 EA1.18 New Higher 61 011 EA1.01 Modified Memory 62 E01/E02 EK3.2 Bank Memory 63 022 AA1.08 Bank Higher 64 025 AA2.07 Bank Memory 65 054 G2.1.2 New Memory 66 065 G2.1.2 New Higher 70 028 AX3.02 New Higher 71 036 AA2.51 New Higher 72 054 G2.2.5 New Memory 73 001 A2.03 Bank Higher SRO 74 056 A2.04 New Higher	53	074 EK1.05	Modified	Higher	
55 075 EA1.2 Bank Memory 56 076 AA2.02 Bank Memory 57 001 AA1.05 New Higher 58 003 AK2.02 Bank Higher 59 008 AK2.02 Bank Higher 60 009 EA1.18 New Higher 61 011 EA1.01 Modified Memory 62 E01/E02 EK3.2 Bank Higher 64 025 AA2.07 Bank Higher 64 025 AA2.07 Bank Higher 66 065 G2.1.2 New Memory 67 058 AA2.03 Modified Memory 68 061 AA101 Bank Higher 70 028 AK3.02 New Higher 71 036 AA2.51 New Higher 72 054 G2.25 New Higher 73 001 A2.03 Bank Higher 74 056 A2.04 New Higher	54	074 EK1.3	Modified	Memory	
56 076 01 A1.02 Bank Memory 57 001 A1.05 New Higher	55	075 EA1.2	Bank	Memory	
57 001 AK 2.05 New Higher 58 003 AK 2.02 Bank Higher 59 008 AK 2.02 Bank Higher 60 009 EA 1.18 New Higher 61 011 EA 1.01 Modified Memory 62 E01/E02 EK 3.2 Bank Higher 63 022 AA 1.08 Bank Higher 64 025 AA 2.07 Bank Hemory 65 054 G2 4.2 Bank Higher 66 065 G2 1.2 New Memory 67 058 AA 2.03 Modified Memory 68 061 AA101 Bank Higher 1 70 028 AK 3.02 New Higher 1 71 036 AA 2.51 New Higher SRO 73 001 A2.03 Bank Higher SRO 74 056 A2.04 New Higher SRO 75 003 G2 4.31 Bank Higher SRO <td>56</td> <td>076 AA2.02</td> <td>Bank</td> <td>Memory</td> <td></td>	56	076 AA2.02	Bank	Memory	
38 003 AK2.02 New Higher 59 008 AK2.02 Bank Higher 60 009 EA1.18 New Higher 61 011 EA1.01 Modified Memory 62 E01/E02 EK3.2 Bank Higher 63 022 AA1.08 Bank Higher 64 025 AA2.07 Bank Higher 65 054 G2.4.2 Bank Higher 66 065 G2.1.2 New Memory 67 058 AA2.03 Modified Memory 68 061 AA1.01 Bank Higher 70 028 AK3.02 New Higher 71 036 AA2.51 New Higher 72 054 G2.2.5 New Higher 73 001 A2.03 Bank Higher 74 056 A2.04 New Higher 75 003 G2.1.33 New Higher 76 016 G2.1.28 Bank Higher <tr< td=""><td>57</td><td>001 AA1.05</td><td>New</td><td>Memory</td><td></td></tr<>	57	001 AA1.05	New	Memory	
59 008 AK2.02 Bank Higher 60 009 EA.118 New Higher 61 011 EA1.01 Modified Memory 62 E01/E02 EK3.2 Bank Memory 63 022 AA1.08 Bank Higher 64 025 AA2.07 Bank Higher 66 065 G2.1.2 New Memory 67 058 AA2.03 Modified Memory 68 061 AA1.01 Bank Higher 70 028 AK3.02 New Higher 71 036 AA2.51 New Higher 72 054 G2.2.5 New Higher SRO 73 001 A2.03 Bank Higher SRO 74 056 A2.04 New Higher SRO 75 003 G2.4.31 Bank Higher SRO 76 016 G2.1.28 Bank Higher SRO 78 008 A2.02 New Higher SRO	58	003 AK2.05	New	Higher	
60 009 EA1.18 New Higher 61 011 EA1.01 Modified Memory 62 E01/E02 EK3.2 Bank Higher 63 022 AA1.08 Bank Higher 64 025 AA2.07 Bank Memory 65 054 G2.1.2 Bank Higher 66 065 G21.2 New Memory 67 058 AA2.03 Modified Memory 68 061 AA1.01 Bank Higher 69 038 EK3.01 Bank Memory 70 028 AK3.02 New Higher 71 036 AA2.51 New Higher 72 054 G2.2.5 New Memory SRO 73 001 A2.03 Bank Higher SRO 74 056 A2.04 New Higher SRO 75 003 G2.4.31 Bank Higher SRO 76 016 G2.1.28 Bank Higher SRO	59	008 AK2.02	Bank	Higher	
61 011 EA1.01 Modified Memory 62 E01/£02 EK3.2 Bank Miemory 63 022 AA1.08 Bank Higher 64 025 AA2.07 Bank Memory 65 054 G2.4.2 Bank Higher 66 065 G2.1.2 New Memory 67 058 AA2.03 Modified Memory 68 061 AA1.01 Bank Higher 69 038 EK3.01 Bank Memory 70 028 AK3.02 New Higher 71 036 AA2.51 New Higher 72 054 G2.2.25 New Higher SRO 73 001 A2.03 Bank Higher SRO 74 056 A2.04 New Higher SRO 75 003 G2.4.31 Bank Higher SRO 76 016 G2.1.28 Bank Higher SRO 79 078 G2.1.33 New Higher SRO	60	009 EA1.18	New	Higher	
62 E01/E02 EK3.2 Bank Memory 63 022 AA1.08 Bank Higher 64 025 AA2.07 Bank Memory 65 054 G2.4.2 Bank Higher 66 065 G2.1.2 New Memory 67 058 AA2.03 Modified Memory 68 061 AA1.01 Bank Higher 69 038 EK3.01 Bank Memory 70 028 AK3.02 New Higher 71 036 AA2.51 New Higher 73 001 A2.03 Bank Higher SRO 74 056 A2.04 New Higher SRO 75 003 G2.4.31 Bank Higher SRO 76 016 G2.1.28 Bank Higher SRO 78 008 A2.02 New Higher SRO 79 078 G2.1.23 New Higher SRO 80 G2.1.11 Bank Higher <	61	011 EA1.01	Modified	Memory	
63 022 AA1.08 Bank Higher 64 025 AA2.07 Bank Memory 65 054 G2.4.2 Bank Higher 66 065 G2.1.2 New Memory 67 038 AA2.03 Modified Memory 68 061 AA1.01 Bank Higher 69 038 EK3.01 Bank Memory 70 028 AK3.02 New Higher 71 036 AA2.51 New Higher 72 054 G2.25 New Memory SRO 73 001 A2.03 Bank Higher SRO 74 056 A2.04 New Higher SRO 75 003 G2.4.31 Bank Higher SRO 76 016 G2.1.28 Bank Higher SRO 78 008 A2.02 New Higher SRO 79 078 G2.1.23 New Higher SRO 81 G2.1.20 Modified H	62	E01/E02 EK3.2	Bank	Memory	
64 025 AA2.07 Bank Memory 65 054 G2.4.2 Bank Higher 66 065 G2.1.2 New Memory 67 058 AA2.03 Modified Memory 68 061 AA1.01 Bank Higher 69 038 EK3.01 Bank Memory 70 028 AK3.02 New Higher 71 036 AA2.51 New Higher 72 054 G2.25 New Memory SRO 73 001 A2.03 Bank Higher SRO 74 056 G2.23.1 Bank Higher SRO 75 003 G24.31 Bank Higher SRO 76 016 G2.1.28 Bank Higher SRO 78 008 A2.02 New Higher SRO 79 078 G2.1.23 New Higher SRO 80 G2.1.1 Bank Memory SRO 81 G2.1.20 Modified	63	022 AA1.08	Bank	Higher	
65 054 G2.4.2 Bank Higher 66 065 G2.1.2 New Memory 67 058 AA2.03 Modified Memory 68 061 AA1.01 Bank Higher 69 038 EK3.01 Bank Memory 70 028 AK3.02 New Higher 71 036 AA2.51 New Higher 72 054 G2.2.25 New Memory SRO 73 001 A2.03 Bank Higher SRO 74 056 A2.04 New Higher SRO 75 003 G2.4.31 Bank Higher SRO 76 016 G2.1.28 Bank Higher SRO 70 062 G2.1.33 New Higher SRO 70 078 G2.1.23 New Higher SRO 79 078 G2.1.23 New Higher SRO 81 G2.1.20 Modified Higher SRO 82 G2.2.	64	025 AA2.07	Bank	Memory	
66 065 G2.1.2 New Memory 67 058 AA2.03 Modified Memory 68 061 AA1.01 Bank Higher 69 038 EK3.01 Bank Memory 70 028 AK3.02 New Higher 71 036 AA2.51 New Higher 72 054 G2.225 New Memory SRO 73 001 A2.03 Bank Higher SRO 74 056 A2.04 New Higher SRO 75 003 G2.4.31 Bank Higher SRO 76 016 G2.1.28 Bank Higher SRO 78 008 A2.02 New Higher SRO 79 078 G2.1.23 New Higher SRO 80 G2.1.1 Bank Higher SRO 81 G2.2.20 Modified Higher SRO 83 G2.2.21 Bank Memory SRO 84	65	054 G2.4.2	Bank	Higher	
67 058 AA2.03 Modified Memory 68 061 AA1.01 Bank Higher 69 038 EKS.01 Bank Memory 70 028 AK3.02 New Higher 71 036 AA2.51 New Higher 72 054 G22.25 New Memory SRO 73 001 A2.03 Bank Higher SRO 74 056 A2.04 New Higher SRO 75 003 G2.4.31 Bank Higher SRO 76 016 G2.1.28 Bank Higher SRO 78 008 A2.02 New Higher SRO 79 078 G2.1.23 New Higher SRO 80 G2.1.11 Bank Higher SRO 81 G2.1.20 Modified Higher SRO 82 G2.2.22 Bank <td>66</td> <td>065 G2.1.2</td> <td>New</td> <td>Memory</td> <td></td>	66	065 G2.1.2	New	Memory	
68 061 AA1.01 Bank Higher 69 038 EK3.01 Bank Memory 70 028 AK3.02 New Higher 71 036 AA2.51 New Higher 72 054 G2.2.25 New Memory SRO 73 001 A2.03 Bank Higher SRO 74 056 A2.04 New Higher SRO 75 003 G2.4.31 Bank Higher SRO 76 016 G2.1.28 Bank Higher SRO 78 008 A2.02 New Higher SRO 79 078 G2.1.23 New Higher SRO 80 G2.1.20 Modified Higher SRO 81 G2.1.20 Modified Higher SRO 82 G2.2.2 Bank Higher SRO 84 G2.2.2 Bank Higher SRO 85 G2.4.4 Bank Higher SRO	67	058 AA2.03	Modified	Memory	
69 038 EK3.01 Bank Memory 70 028 AK3.02 New Higher 71 036 AA2.51 New Higher 72 054 G2.2.25 New Memory SRO 73 001 A2.03 Bank Higher SRO 74 056 A2.04 New Higher SRO 75 003 G2.4.31 Bank Higher SRO 76 016 G2.1.28 Bank Higher SRO 77 062 G2.1.33 New Higher SRO 78 008 A2.02 New Higher SRO 79 078 G2.1.23 New Higher SRO 80 G2.1.11 Bank Higher SRO 81 G2.2.6 New Memory SRO 82 G2.2.6 New Memory SRO 83 G2.2.12 Bank Higher SRO 84 G2.2.4 Bank Higher SRO <td>68</td> <td>061 AA1.01</td> <td>Bank</td> <td>Higher</td> <td></td>	68	061 AA1.01	Bank	Higher	
70 028 AK3.02 New Higher 71 036 AA2.51 New Higher 72 054 G2.2.25 New Memory SRO 73 001 A2.03 Bank Higher SRO 74 056 A2.04 New Higher SRO 74 056 A2.04 New Higher SRO 75 003 G2.4.31 Bank Higher SRO 76 016 G2.1.28 Bank Higher SRO 78 008 A2.02 New Higher SRO 79 078 G2.1.23 New Higher SRO 80 G2.1.11 Bank Higher SRO 81 G2.1.20 Modified Higher SRO 82 G2.2.6 New Memory SRO 83 G2.2.22 Bank Higher SRO 84 G2.2.34 Bank Higher SRO 85 G2.4.4 Bank Higher <td>69</td> <td>038 EK3.01</td> <td>Bank</td> <td>Memory</td> <td></td>	69	038 EK3.01	Bank	Memory	
71 036 AA2.51 New Higher 72 054 G2.2.25 New Memory SRO 73 001 A2.03 Bank Higher SRO 74 056 A2.04 New Higher SRO 75 003 G2.4.31 Bank Higher SRO 75 003 G2.4.31 Bank Higher SRO 76 016 G2.1.28 Bank Higher SRO 77 062 G2.1.33 New Higher SRO 78 008 A2.02 New Higher SRO 79 078 G2.1.23 New Higher SRO 80 G2.1.11 Bank Higher SRO 81 G2.2.20 Modified Higher SRO 82 G2.2.21 Bank Memory SRO 84 G2.2.22 Bank Higher SRO 84 G2.4.4 Bank Higher SRO 86	70	028 AK3.02	New	Higher	
72 054 G2.2.25 New Memory SRO 73 001 A2.03 Bank Higher SRO 74 056 A2.04 New Higher SRO 75 003 G2.4.31 Bank Higher SRO 76 016 G2.1.28 Bank Higher SRO 76 062 G2.1.33 New Higher SRO 78 008 A2.02 New Higher SRO 79 078 G2.1.23 New Higher SRO 80 G2.1.11 Bank Higher SRO 81 G2.1.20 Modified Higher SRO 82 G2.2.2 Bank Memory SRO 84 G2.2.34 Bank Higher SRO 85 G2.4.4 Bank Higher SRO 86 G2.4.4 Bank Higher SRO 89 G2.4.12 Bank Higher SRO 90 <	71	036 AA2.51	New	Higher	
73 001 A2.03 Bank Higher SRO 74 056 A2.04 New Higher SRO 75 003 G2.4.31 Bank Higher SRO 76 016 G2.1.28 Bank Higher SRO 77 062 G2.1.33 New Higher SRO 78 008 A2.02 New Higher SRO 79 078 G2.1.23 New Higher SRO 80 G2.1.11 Bank Higher SRO 81 G2.1.20 Modified Higher SRO 82 G2.2.6 New Memory SRO 83 G2.2.22 Bank Memory SRO 84 G2.2.34 Bank Higher SRO 86 G2.4.4 Bank Higher SRO 87 G2.4.45 Bank Higher SRO 89 G2.4.12 Bank Memory SRO 91 <td>72</td> <td>054 G2.2.25</td> <td>New</td> <td>Memory</td> <td>SRO</td>	72	054 G2.2.25	New	Memory	SRO
74 056 A2.04 New Higher SRO 75 003 G2.4.31 Bank Higher SRO 76 016 G2.1.28 Bank Higher SRO 77 062 G2.1.33 New Higher SRO 78 008 A2.02 New Higher SRO 79 078 G2.1.23 New Higher SRO 80 G2.1.11 Bank Higher SRO 81 G2.1.20 Modified Higher SRO 82 G2.2.6 New Memory SRO 84 G2.2.22 Bank Memory SRO 84 G2.2.34 Bank Higher SRO 86 G2.4.4 Bank Higher SRO 87 G2.4.45 Bank Higher SRO 88 G2.4.24 New Higher SRO 89 G2.4.12 Bank Higher SRO 91	73	001 A2.03	Bank	Higher	SRO
75 003 G2.4.31 Bank Higher SRO 76 016 G2.1.28 Bank Higher 800 77 062 G2.1.33 New Higher SRO 78 008 A2.02 New Higher SRO 79 078 G2.1.23 New Higher SRO 80 G2.1.11 Bank Higher SRO 81 G2.1.20 Modified Higher SRO 81 G2.1.20 Modified Higher SRO 82 G2.2.6 New Memory SRO 83 G2.2.22 Bank Memory SRO 84 G2.2.34 Bank Higher SRO 85 G2.4.4 Bank Higher SRO 86 G2.4.6 Bank Higher SRO 87 G2.4.45 Bank Higher SRO 89 G2.4.12 Bank Higher SRO		056 A2.04	New	Higher	SRO
76 016 G2.1.28 Bank Higher SRO 77 062 G2.1.33 New Higher SRO 78 008 A2.02 New Higher SRO 79 078 G2.1.23 New Higher SRO 80 G2.1.21 Bank Higher SRO 80 G2.1.23 New Higher SRO 81 G2.1.20 Modified Higher SRO 82 G2.2.6 New Memory SRO 83 G2.2.22 Bank Memory SRO 84 G2.2.34 Bank Higher SRO 85 G2.4.4 Bank Higher SRO 86 G2.4.4 Bank Higher SRO 87 G2.4.12 Bank Higher SRO 89 G2.4.12 Bank Memory SRO 90 E09 G2.4.50 Bank Higher SRO 91	75	003 G2.4.31	Bank	Higher	SRO
77 062 G2.1.33 New Higher SRO 78 008 A2.02 New Higher SRO 79 078 G2.1.23 New Higher SRO 80 G2.1.11 Bank Higher SRO 81 G2.1.20 Modified Higher SRO 82 G2.2.6 New Memory SRO 83 G2.2.22 Bank Memory SRO 84 G2.2.34 Bank Higher SRO 85 G2.4.4 Bank Higher SRO 86 G2.4.5 Bank Higher SRO 87 G2.4.45 Bank Higher SRO 88 G2.4.12 Bank Higher SRO 90 E09 G2.4.50 Bank Higher SRO 91 029 EA2.02 New Higher SRO 92 E08 EA2.1 Bank Higher SRO 93 059 AA2.02 <td>76</td> <td>016 G2.1.28</td> <td>Bank</td> <td>Higher</td> <td></td>	76	016 G2.1.28	Bank	Higher	
78 008 A2.02 New Higher SRO 79 078 G2.1.23 New Higher SRO 80 G2.1.11 Bank Higher SRO 81 G2.1.20 Modified Higher SRO 82 G2.2.6 New Memory SRO 83 G2.2.22 Bank Memory SRO 84 G2.2.34 Bank Higher SRO 85 G2.4.4 Bank Higher SRO 86 G2.4.4 Bank Higher SRO 87 G2.4.45 Bank Higher SRO 87 G2.4.12 Bank Higher SRO 88 G2.4.24 New Higher SRO 90 E09 G2.4.50 Bank Higher SRO 91 029 EA2.02 New Higher SRO 92 E08 EA2.1 Bank Higher SRO 93	77	062 G2.1.33	New	Higher	SRO
79 078 G2.1.23 New Higher SRO 80 G2.1.11 Bank Higher SRO 81 G2.1.20 Modified Higher SRO 82 G2.2.6 New Memory SRO 83 G2.2.22 Bank Memory SRO 84 G2.34 Bank Higher SRO 85 G2.4.4 Bank Higher SRO 86 G2.4.5 Bank Higher SRO 87 G2.4.45 Bank Higher SRO 88 G2.4.12 Bank Higher SRO 89 G2.4.12 Bank Memory SRO 90 E09 G2.4.50 Bank Higher SRO 91 0.29 EA2.02 New Higher SRO 92 E08 EA2.1 Bank Higher SRO 93 059 AA2.02 New Memory SRO 94 069 AA2.02	78	008 A2.02	New	Higher	SRO
80G2.1.11BankHigherSRO81G2.1.20ModifiedHigherSRO82G2.2.6NewMemorySRO83G2.2.22BankMemorySRO84G2.2.34BankHigher85G2.4.4BankHigherSRO86G2.4.6BankHigherSRO87G2.4.45BankHigherSRO88G2.4.24NewHigherSRO89G2.4.12BankMemorySRO90E09 G2.4.50BankHigherSRO91029 EA2.02NewHigherSRO92E08 EA2.1BankHigherSRO93059 AA2.02NewMemorySRO94069 AA2.02BankHigherSRO95007 G2.1.14NewHigherSRO96E03 EA1.02BankHigherSRO99E11 EK1.2BankHigherSRO99E11 EK1.2BankHigherSRO99E11 EK1.2BankHigherSRO	79	078 G2.1.23	New	Higher	SRO
81G2.1.20ModifiedHigherSRO82G2.2.6NewMemorySRO83G2.2.22BankMemorySRO84G2.2.34BankHigher85G2.4.4BankHigherSRO86G2.4.6BankHigherSRO87G2.4.45BankHigherSRO88G2.4.24NewHigherSRO89G2.4.12BankMemorySRO90E09 G2.4.50BankHigherSRO91029 EA2.02NewHigherSRO92E08 EA2.1BankHigherSRO93059 AA2.02NewMemorySRO94069 AA2.02BankHigherSRO95007 G2.1.14NewHigherSRO96E03 EA1.02BankHigherSRO98037 G2.2.22ModifiedHigherSRO99E11 EK1.2BankHigherSRO90036 G2.2.28BankHigherSRO	80	G2.1.11	Bank	Higher	SRO
82 G2.2.6 New Memory SRO 83 G2.2.22 Bank Memory SRO 84 G2.2.34 Bank Higher SRO 85 G2.4.4 Bank Higher SRO 86 G2.4.6 Bank Higher SRO 87 G2.4.45 Bank Higher SRO 88 G2.4.24 New Higher SRO 89 G2.4.12 Bank Memory SRO 90 E09 G2.4.50 Bank Higher SRO 91 029 EA2.02 New Higher SRO 92 E08 EA2.1 Bank Higher SRO 93 059 AA2.02 New Memory SRO 94 069 AA2.02 Bank Higher SRO 95 007 G2.1.14 New Higher SRO 96 E03 EA1.02 Bank Higher SRO 97 033 AA2.10	81	G2.1.20	Modified	Higher	SRO
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99 E11 EK1.2 Bank Higher 100 036 G2.2.28 Bank Higher SRO	98	037 G2.2.22	Modified	Higher	SRO
100 036 G2.2.28 Bank Higher SRO	99	E11 EK1.2	Bank	Higher	
	100	036 G2.2.28	Bank	Higher	SRO

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Written Examination Quality Checklist

Fa	cility:	IP2	Date of Exam: 3	3/15/2003	Fxan	n level:	R)	
	<u>.</u>		Item Description					Initial	
1.	Questio	ons and answers	technically accurate and applicable	to the facility	1		A	B*	C#
		(A					an	hu	
2.	RC K Facility	learning objectiv	or all questions ves referenced as available				The	hh	
3.	RO/SR D.2.d o	O Overlap is no f ES-401	more than 75%, and SRO question	s are appropr	iate per Sec	tion	Gon	m	
4.	Questic consist	on selection and ent with a system	duplication from the last 2 NRC lice natic sampling process	ensing exams	appears to	be	Res	hh	
5.	Questic below (• Th • Th • Th • Th • O	on duplication fro check the item the audit exam wa he audit exam wa he examinations he licensee certif ther (explain)	om the license screening/audit exan hat applies and appears appropriate as systematically and randomly dev as completed before the license exa were developed independently; or les that there is no duplication: or	n was controlle e: eloped; or am was started	ed as indica d; or	ted	Rag	wh	
6.	Bank u	se meets limits (no more than 75% from the bank	Bank	Modified	New			
	and at a	least 10 new, an question distribut	d the rest modified); enter the tion at right	50	18	32	Th	ph	
7.	Betwee	n 50 and 60 per	cent of the questions on the exam	Memo	ry 📃	C/A	<u> </u>		
	(includi compre distribu	ng 10 new quest hension/analysis tion on the right	ions) are written at the sevel; enter the actual question	47		53	Tas	hh	
8.	Refere	nces/handouts d	o not give away answers				A	AM	
9.	Questic examin justified	on content confo ation outline and I	rms with specific K/A statements in I is appropriate for the tier to which	the previously they are assig	/ approved jned; deviat	ions are	Ros	sh	
10.	Questic	on psychometric	quality and format meet ES, Appen	dix B, guidelir	nes	· · · · · ·	tha	m	
11.	The ex value o	am contains 100 n cover sheet	, one-point, multiple choice items; t	he total is corr	ect and agr	ees with	654	hh	
			Printed	Name/Signat	ure			D	ate
a. A	uthor		JOSEPH & ARSON	wa by	oh H	hand	X	2/	28/03
b. F	acility Re	eviewer (*)	WILLIAM S. AL	ru h	<u>م</u> ر	Alt	5	3-6	03
c. C	hief Exa	miner (#)							
d. N	RC Reg	ional Supervisor							
Note	e: '	The facility revi	ewer's initial/signature are not appli	cable for NRC	-developed	examinati	ions		
	ŧ	# Independent N	RC reviewer initial items in column	'c', Chief Exar	miner concu	rrence req	luired		

Initial NRC License Examination Indian Point Unit 2 Written Test Item Summary Reactor Operator

Question #	K/A	Source	Cognitive	Comments
1	003 43 04	New	Uigher	
2	003 K4 04	Bank	Higher	
3	003 K4.04	Bank	Higher	
4	013 41 01	Bank	Memory	
5	015 K 5 02	Bank	Higher	
6	017 A4 01	Bank	Memory	
7	022 A4 04	New	Memory	
8	059 K4 19	Modified	Higher	
9	059 A4 03	New	Memory	
10	061 K6 02	Bank	Highor	
11	071 K5 04	Modified	Memory	
12	072 43 01	New	Memory	
13	006 K2 04	Modified	Higher	
14	010 43 02	New	Higher	
15	010 A3.02	New	Memory	
16	012 K5 01	Bank	Memory	
17	014 A4 01	Modified	Higher	
18	026 41 01	Now	Momory	
19	033 A2 02	Now	Lighor	
20	035 G2 4 4	Now	Ligher	
21	039 K1 06	Bank	Ligher	
22	055 K3 01	Modified	Ligher	
23	063 K1 03	Now	Mamory	
24	063 K3 02	Bank	Higher	
25	064 41 08	Bank	Higher	
26	062 K1 03	Bank	Higher	
2.7	012 G2 4 12	New	Memory	
28	079 K1 01	New	Higher	
29	086 K4 07	Bank	Memory	
30	005 A2 02	Modified	Higher	
31	013 A4 03	New	Memory	
32	034 K4 02	New	Memory	
33	041 A3 03	New	Higher	
34	G2.1.8	Bank	Memory	
35	G2.2.13	Bank	Memory	
36	G2.2.33	Modified	Higher	
37	G2.2.2	Modified	Higher	
38	G2 3 9	New	Memory	
39	G2.4.19	New	Memory	
40	G2.4.29	Bank	Memory	
41	005 AK1 03	Bank	Higher	
42	E09 EK3 1	Bank	Memory	
43	024 AA2.04	Bank	Higher	
44	026 AK3.03	Bank	Memory	
45	027 AA2.15	New	Higher	
46	040 AK1.06	Bank	Higher	
47	040 EA1.2	Bank	Memory	
48	051 AA1.04	Bank	Higher	
49	055 EA2.01	Bank	Higher	
50	057 AK3.01	New	Higher	

Initial NRC License Examination Indian Point Unit 2 Written Test Item Summary Reactor Operator

E 1	000 4 40 01	Dent	Higher	
52	062 AA2.01	Bank Dank	riigher	
52	015/01 / AA1.22	Dank	Higher	
53	0/4 EK1.05	Modified	Higher	
54	0/4 EK1.3	Domined	Memory	
<u> </u>	075 EA1.2	Bank	Memory	
56	0/6 AA2.02	Bank	Memory	
57	001 AA1.05	New	Memory	
58	003 AK2.05	New	Higher	
59	008 AK2.02	Bank	Higner	
60	009 EA1.18	New	Higher	
61	011 EA1.01	Modified	Memory	
62	E01/E02 EK3.2	Bank	Memory	
63	022 AA1.08	Bank	Higher	
64	025 AA2.07	Bank	Memory	
65	054 G2.4.2	Bank	Higher	
66	065 G2.1.2	New	Memory	
67	058 AA2.03	Modified	Memory	
68	061 AA1.01	Bank	Higher	
69	038 EK3.01	Bank	Memory	
70	028 AK3.02	New	Higher	
71	036 AA2.51	New	Higher	
72	032 AA2.04	New	Higher	
73	001 K4.02	Bank	Higher	
74	004 K5.19	Modified	Higher	
75	013 A2.01	Modified	Higher	
76	015 K4.03	Bank	Memory	
77	017 K1.01	Modified	Higher	
78	001 A3.05	Bank	Higher	
79	056 G2.1.2	New	Memory	
80	061 K4.04	Bank	Memory	
81	068 A3.02	Bank	Memory	
82	068 K1.07	Bank	Memory	
83	056 K1.03	New	Memory	
84	002 K4.02	Modified	Higher	
85	016 K3.04	Bank	Higher	
86	029 A1.02	New	Memory	
87	076 K3.07	Bank	Higher	
88	045 A1.06	Bank	Higher	
89	076 K2.01	New	Memory	
90	008 K3.01	Modified	Higher	
91	G2.1.2	Bank	Memory	
92	G2.2.12	Bank	Memory	
93	G2.1.18	New	Memory	
94	G2.3.4	Bank	Memory	
95	G2.4.14	Bank	Higher	
96	G2.4.34	Modified	Memory	
97	E04 EK1.3	Bank	Higher	
98	E01/E02 EA2.2	Bank	Memory	
99	058 AK3.02	New	Memory	
100	E05 G2.4.6	Bank	Higher	<u> </u>
L				······································

Facility: Indian Point Units 2 & 3 Date of Exam: 3/8/2003 Exam Level: SRO																
							K	/A Ca	ategoi	ry Po	int				Point	
-	Tier		Group	K 1	K 2	К 3	K 4	К 5	К 6	A 1	A 2	A 3	A 4	G *	Total	
	4		1	4	1	4				6	8			1	24	
Emer	gency	&	2	1	1	1				4	4			5	16	
Abnorr	mal Pla	ant	3	0	0	1				0	1			1	3	
Evo	iutions		Tier Totals	5	2	6				10	13			7	43	
	<u> </u>		1 1 0 1 2 2 2 2 2 5 1 2 2 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1													
P	2. Iant		2 3 2 1 2 1 0 1 1 1 0 4 2 3 2 1 2 1 0 1 1 1 0 4													
Sys	stems		3	0	0	0	0	0	0	0	2	1	0	1	4	
		Tier 4 2 2 4 3 2 3 5 4 5 6												40		
3. 6	Generia	: Kno	wledge an	d Abi	lities		Ca	t 1	Са	t 2	Ca	t 3	Ca	nt 4		
							3	5	6	\$	1		-	7	17	
Note:	1.	Ensu tier (i	ire that at le i.e., the "Tie	east t er Tol	wo to tals" i	opics in ea	from ch K//	ever A cat	y K/A egory	cate shal	gory : I not	are s be le	ampl ss th	ed wil an tw	thin each o).	
	2.	The spec ± 1 fi total	point total f ified in the rom that sp 100 points	or ea table ecifie	ch gr . The d in t	oup a fina he ta	and ti I poin Ible b	er in it tota ased	the p Il for e on N	ropos each IRC ré	sed or group evisio	utline o and ons.	e mus I tier The f	at mat may c Final e	ch that deviate by exam must	
	3.	Sele topic	ct topics fro s from a giv	om ma ven sj	any s yster	yster n unl	ns; a ess th	void s ney re	select elate t	ting n to pla	nore t int-sp	han ecific	two c c prio	r thre rities.	e K/A	
	4.	Syste	ems/evoluti	ons v	vithin	each	n grou	up are	e ider	ntified	l on t	ne as	socia	ated c	outline.	
	5.	The s	shaded are	as ar	e not	appl	icable	e to tl	he ca	tegor	y/tier					
	6.*	The (Cata	generic K/A log, but the	s in t topic	iers 1 s mu	l and ist be	l 2 shi e relev	all be vant l	e sele to the	cted : appl	from icable	Secti e evo	on 2 Iutior	of the	e K/A ystem.	
	 On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings for the SRO license level, and the point totals for each system and category. K/A's below 2.5 should be justified on the basis of plant-specific priorities. Enter the tier totals for each category in the table above. 															

*See Note 2 Above

Facility: Indian Point Units 2 & 3 Date of Exam: 3/8/2003 Exam Level: SRO														SRO	
							К/	'A Ca	tegor	y Poi	nt				Point
-	Tier		Group	К 1	К 2	К 3	К 4	K 5	К 6	A 1	A 2	A 3	A 4	G *	Total
	<u></u>		1	4	1	4				6	8			1	24
Emer	1. aencv	&	2	1	1	1				4	4			5	16
Abnor	mal Pl	Plant 3 0 0 1 0 1 1													3
Evo	lution	, Tier 5 2 6 10 13 7													
		1 1 0 1 2 2 2 2 2 5 1													
_	2. Nant		2 3 2 1 2 1 0 1 1 0 4												
Sy	stems		3 0 0 0 0 0 0 0 2 1 0 1												4
			Tier 4 2 2 4 3 2 3 5 4 5 6												40
3 (Generi	ic Kno	wledge an	d Ahi	litios		Ca	t 1	Ca	t 2	Ca	t 3	Ca	it 4	
0. (Jenen		Swiedge an		mos		3	5	6	5	3	5		5	17
Note:	1. 2.	Ensu tier (The spec ± 1 f total	ure that at l i.e., the "Ti point total f cified in the rom that sp 100 points	east f er To for ea table ecifie	wo to tals" ich gr . The ed in t	opics in ea roup e fina the ta	from ch K/. and ti Il poir able b	ever A cat er in it tota ased	y K/A egory the p al for o on N	cate y shal ropos each IRC r	gory a I not sed o group evisio	are s be le utline o anc ons.	ampl ss th mus t tier The f	ed wi an tw st mal may o final e	thin each o). ch that deviate by exam must
	3.	Sele topic	ct topics fro s from a gi	om m ven s	any s yster	systei n unl	ms; a ess ti	void : ney re	select elate	ting n to pla	nore f int-sp	than ecifi	two c c prio	rities.	e K/A
	4.	Syst	ems/evolut	ions v	withir	n eac	h groi	up ar	e ider	ntified	t on t	he as	ssocia	ated o	outline.
	5.	The	shaded are	eas ar	e no	t app	licabl	e to t	he ca	itegoi	∙y/tier	•			
	6.*	The Cata	generic K/A log, but the	As in t e topic	tiers cs mi	1 and ust be	d 2 sh e rele	all be vant i	e sele to the	cted appl	from licable	Sect e evo	ion 2 olutio	of the	e K/A ystem.
	 Catalog, but the topics must be relevant to the applicable evolution or system. 7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings for the SRO license level, and the point totals for each system and category. K/A's below 2.5 should be justified on the basis of plant-specific priorities. Enter the tier totals for each category in the table above 														

*See Note 2 Above

INDIAN POINT UNITS 2 & 3 PWR SRO Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1/Group 1

E/APE # / Name / Safety Function	K1	К2	К3	A1	A2	G	Number	K/A Topic(s)	lmp.	Q#

							10201			
000001 / Continuous Rod Withdrawal / 1				x			AA1.05	Ability to operate and / or monitor the following as they apply to the Continuous Rod Withdrawal: Reactor trip switches.	4.2	57
000003 / Dropped Control Rod / 1		×					AK2.05	Knowledge of the interrelations between the Dropped Control Rod and the following: Control rod drive power supplies and logic circuits.	2.8	58
000005 / Inoperable/Stuck Control Rod / 1	×						AK1.03	Knowledge of the operational implications of the following concepts as they apply to the stuck rod: Xenon transient.	3.6	41
000011 / Large Break LOCA / 3				X			EA1.01	Ability to operate and monitor the following as they apply to a Large Break LOCA: Control of RCS pressure and temperature to avoid violating PTS limits.	3.8	61
W/E04 / LOCA Outside Containment / 3		1		1		1				
W/E01 & E02 / Rediagnosis & SI Termination / 3			X				EK3.2	Knowledge of the reasons for the following responses as they apply to the (Reactor Trip or Safety Injection/Rediagnosis): Normal, abnormal and emergency operating procedures associated with (Reactor Trip or Safety Injection/Rediagnosis).	3.9	62
000015 / 17 RCP Malfunctions / 4				X			AA1.22	Ability to operate and/or monitor the following as they apply to the RCP malfunctions: RCP seal failure/malfunction	4.2	52
BW/E09; CE/A13; W/E09 & E10 / Naturał Circ. / 4			X				EK3.1	Knowledge of the reasons for the following responses as they apply to the (Natural Circulation Operations): Facility operating characteristics during transient conditions, including coolant chemistry and the effects of temperature, pressure, and reactivity changes and operating limitations and reasons for these operating characteristics.	3.6	42
BW/E09; CE/A13; W/E09 & E10 / Natural Circ. / 4						X	2.4.50	Emergency Procedures/Plan: Ability to verify system alarm setpoints and operate controls identified in the alarm response manual.	3.3	90
000024 / Emergency Boration / 1					X		AA2.04	Ability to determine and interpret the following as they apply to the Emergency Boration: Availability of BWST.	4.2	43
000026 / Loss of Component Cooling Water / 8			х				AK3.03	Knowledge of the reasons for the following responses as they apply to the Loss of Component Cooling Water: Guidance and actions contained in EOP for Loss of CCW/nuclear service water.	4.2	44
000029 / Anticipated Transient w/o Scram / 1					Х		EA2.02	Ability to determine or interpret the following as they apply to ATWS: Reactor trip alarm.	4.4	91
000040 (BW/E05; CE/E05; W/E12) / Steam Line Rupture – Excessive Heat Transfer / 4	X						AK1.06	Knowledge of the operational implications of the following concepts as they apply to Steam Line Rupture: High-energy steam line break considerations.	3.8	46
000040 (BW/E05; CE/E05; W/E12) / Steam Line Rupture – Excessive Heat Transfer / 4				X			EA1.2	Ability to operate and/or monitor the following as they apply to the (Uncontrolled Depressurization of all Steam Generators): Operating behavior characteristics of the facility.	3.7	47

INDIAN POINT UNITS 2 & 3 PWR SRO Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1/Group 1

Form ES-401-3

E/APE # / Name / Safety Function	К1	K2	К3	A1	A2	G	Number	K/A Topic(s)	lmp.	Q#
CE/A11; W/E08 / RCS Overcooling – PTS / 4					X		EA2.1	Ability to determine and interpret the following as they apply to the (Pressurized Thermal Shock): Facility conditions and selection of appropriate procedures during abnormal and emergency operations.	4.2	92
000051 / Loss of Condenser Vacuum / 4				X			AA1.04	Ability to operate and / or monitor the following as they apply to the Loss of Condenser Vacuum; Rod position.	2.5	48
000055 / Station Blackout / 6					X		EA2.01	Ability to determine or interpret the following as they apply to a Station Blackout: Existing valve positioning on a loss of instrument air system.	3.7	49
000057 / Loss of Vital AC Elec. Inst. Bus / 6			x				AK3.01	Knowledge of the reasons for the following responses as they apply to the Loss of Vital AC Instrument Bus: Actions contained in EOP for loss of vital AC electrical instrument bus.	4.4	50
000059 / Accidental Liquid Radwaste Rel. / 9					x		AA2.02	Ability to determine and interpret the following as they apply to the Accidental Liquid Radwaste Release: The permit for liquid radioactive-waste release.	3.9	93
000062 / Loss of Nuclear Service Water / 4					X		AA2.01	Ability to determine and interpret the following as they apply to the Loss of Nuclear Service Water: Location of a leak in the CCWS.	3.5	51
000067 / Plant Fire On-site / 9										
000068 (BW/A06) / Control Room Evac. / 8										
000069 (W/E14) / Loss of CTMT Integrity / 5					Х		AA2.02	Ability to determine and interpret the following as they apply to the Loss of Containment Integrity: Verification of automatic and manual means of restoring integrity.	4.4	94
000074 (W/E06 & E07) / Inad. Core Cooling / 4	X						EK1.05	Knowledge of the operational implications of the following concepts as they apply to the Inadequate Core Cooling: Definition of saturated liquid.	3.2	53
000074 (W/E06 & E07) / Inad. Core Cooling / 4	X						EK1.3	Knowledge of the operational implications of the following concepts as they apply to the (Degraded Core Cooling): Annunciators and conditions indicating signals, and remedial actions associated with the (Degraded Core Cooling).	3.9	54
000074 (W/E06 & E07) / Inad. Core Cooling / 4				х			EA1.2	Ability to operate and/or monitor the following as they apply to the (Saturated Core Cooling): Operating behavior characteristics of the facility.	3.7	55
BW/E03 / Inadequate Subcooling Margin / 4										
000076 / High Reactor Coolant Activity / 9					Х		AA2.02	Ability to determine and interpret the following as they apply to the High Reactor Coolant Activity: Corrective actions required for high fission product activity in RCS.	3.4	56
BW/A02 & A03 / Loss of NNI-X/Y / 7										
K/A Category Point Totals:	4	1	4	6	8	1		Group Point Total:		24

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INDIAN POINT UNITS 2 & 3 PWR SRO Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1/Group 2

E/APE # / Name / Safety Function	К1	K2	К3	A1	A2	G	Number	K/A Topic(s)	Imp.	Q#
000007 (BW/E02 & E10; CE/E02) / Reactor Trip – Stabilization – Recovery / 1						X	2.1.14	Conduct of Operations: Knowledge of system status criteria, which require the notification of plant personnel.	3.3	95
BW/A01 / Plant Runback / 1					[
BW/A04 / Turbine Trip / 4										
000008 / Pressurizer Vapor Space Accident / 3		X					AK2.02	Knowledge of the interrelations between the Pressurizer Vapor Space Accident and the following: Sensors and detectors.	2.7	59
000009 / Small Break LOCA / 3				x			EA1.18	Ability to operate and monitor the following as they apply to a small break LOCA: Balancing of HPI loop flows.	3.2	60
BW/E08; W/E03 / LOCA Cooldown – Depress. / 4				X			EA1.02	Ability to operate and/or monitor the following as they apply to the (LOCA Cooldown and Depressurization): Operating behavior characteristics of the facility.	3.9	96
W/E11 / Loss of Emergency Coolant Recirc. / 4	x						EK1.2	Knowledge of the operational implications of the following concepts as they apply to the (Loss of Emergency Coolant Recirculation): Normal, abnormal and emergency operating procedures associated with (Loss of Emergency Coolant Recirculation).	4.1	99
000022 / Loss of Reactor Coolant Makeup / 2				Х			AA1.08	Ability to operate and/or monitor the following as they apply to the Loss of Reactor Coolant Pump Makeup: VCT level.	3.3	63
000025 / Loss of RHR System / 4					X		AA2.07	Ability to determine and interpret the following as they apply to the Loss of Residual Heat Removal System: Pump cavitation.	3.7	64
000027 / Pressurizer Pressure Control System Malfunction / 3					x		AA2.15	Ability to determine and interpret the following as they apply to the Pressurizer Pressure Control Malfunctions: Actions to be taken if PZR pressure instrument fails high.	4.0	45
000032 / Loss of Source Range NI / 7										
000033 / Loss of Intermediate Range NI / 7					×		AA2.10	Ability to determine and interpret the following as they apply to the Loss of Intermediate Range NI: Tech Spec limits if both IR channels have failed	3.8	97
000037 / Seam Generator Tube Leak / 3						X	2.2.22	Equipment Control: Knowledge of limiting conditions for operations and safety limits.	4.1	98
000038 / Steam Generator Tube Rupture / 3			×				EK3.01	Knowledge of the reasons for the following responses as they apply to the Steam Generator Tube Rupture: Equalizing pressure on primary and secondary sides of ruptured SG	4.3	69
000054 (CE/E06) / Loss of Main Feedwater / 4						X	2.4.2	Emergency Procedures/Plan: Knowledge of system setpoints, interlocks, and automatic actions associated with EOP entry conditions	4.1	65
000054 (CE/E06) / Loss of Main Feedwater / 4						X	2.2.25	Equipment Control: Knowledge of bases in technical specifications for limiting conditions for operations and safety limits.	3.7	72
BW/E04; W/E05 / Inadequate Heat Transfer Loss of Secondary Heat Sink / 4										

INDIAN POINT UNITS 2 & 3 PWR SRO Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1/Group 2

E/APE # / Name / Safety Function	К1	K2	К3	A1	A2	G	Number	K/A Topic(s)	lmp.	Q#
000058 / Loss of DC Power / 8					х		AA2.03	Ability to determine and interpret the following as they apply to the Loss of DC Power: DC loads lost, impact on ability to operate and monitor plant systems	3.9	67
000060 / Accidental Gaseous Radwaste Rel. / 9										
000061 / ARM System Alarms / 7				x			AA1.01	Ability to operate and/or monitor the following as they apply to the Area Radiation Monitoring (ARM) System Alarms: Automatic actuation.	3.6	68
W/E16 / High Containment Radiation / 9										
000065 / Loss of Instrument Air / 8						х	2.1.2	Conduct of Operations: Knowledge of operator responsibilities during all modes of plant operation,	4.0	66
CE / E09 / Functional Recovery										
K/A Category Point Totals:	1	1	1	4	4	5		Group Point Total:		16

INDIAN POINT UNITS 2 & 3 PWR SRO Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1/Group 3

Form ES-401-3

E/APE # / Name / Safety Function	K1	K2	КЗ	A1	A2	G	Number	K/A Topic(s)	Imp.	Q#
000028 / Pressurizer Level Malfunction / 2			X				AK3.02	Knowledge of the reasons for the following responses as they apply to the Pressurizer Level Control Malfunctions: Relationships between PZR pressure increase and reactor makeup/letdown imbalance.	3.2	70
000036 (BW/A08) / Fuel Handling Accident / 8						X	2.2.28	Equipment Control: Knowledge of new and spent fuel movement procedures	3.5	100
000056 / Loss of Off-site Power / 6					X		AA2.51	Ability to determine and interpret the following as they apply to the Loss of Offsite Power: ΔT , (core, heat exchanger, etc.)	3.4	71
BW/E13 & E14 / EOP Rules and Enclosures	Ι	[
BW/A05 / Emergency Diesel Actuation / 6										
CE/A16 / Excess RCS Leakage / 2										
W/E13 / Steam Generator Over-pressure / 4	1									
W/E15 / Containment Flooding / 5	1						}			
						1				
				1						
		1								
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	t				i					
					i					
K/A Category Point Totals:	0	0	1	0	1	1		Group Point Total:		3

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INDIAN POINT UNITS 2 & 3 PWR SRO Examination Outline Plant Systems – Tier 2/Group 1

	T		1		·····	L		÷	r			Y			
System # / Name	K1	K2	КЗ	K4	K5	K6	A1	A2	A3	A4	G	Number	K/A Topic(s)	Imp.	Q#
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001 Control Rod Drive						×				A2.03	Ability to (a) predict the impacts of the following malfunction or operations on the CRDS- and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Effect of stuck rod or Misaligned rod.	4.2	73
003 Reactor Coolant Pump							X			A3.04	Ability to monitor automatic operation of the RCPs, including: RCS flow.	3.6	1
003 Reactor Coolant Pump		x								K4.04	Knowledge of RCPs design feature(s) and/or interlock(s) which provide for the following: Adequate cooling of RCP motor and seals.	3.1	2
003 Reactor Coolant Pump									X	2.4.31	Emergency Procedures / Plan: Knowledge of annunciators alarms and indications, and use of the response instructions.	3.4	75
004 Chemical and Volume Control				X						K6.17	Knowledge of the effect of a loss or malfunction of the following will have on the CVCS: Flow paths for emergency boration	4.6	3
013 Engineered Safety Features Actuation					×					A1.01	Ability to predict and/or monitor changes in parameters (to Prevent exceeding design limits) associated with operating the ESFAS controls including: RCS pressure and temperature.	4.2	4
013 Engineered Safety Features Actuation								x		A4.03	Ability to manually operate and/or monitor in the Control Room: ESFAS Initiation.	4.7	31
014 Rod Position Indication								X		A4.01	Ability to manually operate and/or monitor in the control room: Rod selection control.	3.1	17
015 Nuclear Instrumentation			X							K5.02	Knowledge of the operational implications of the following concepts as they apply to the NIS: Discriminator/compensation operation.	2.9	5
017 In-Core Temperature Monitor								X		A4.01	Ability to manually operate and/or monitor in the control room: Actual in-core temperatures.	4.1	6
022 Containment Cooling								X		A4.04	Ability to manually operate and/or monitor in the control room: Valves in the CCS.	3.2	7
025 Ice Condenser											SUPPRESSED		
026 Containment Spray					X					A1.01	Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the CSS controls including: Containment pressure.	4.2	18

INDIAN POINT UNITS 2 & 3 PWR SRO Examination Outline Plant Systems – Tier 2/Group 1

				,											
System # / Name	K1	K2	кз	K4	K5	K6	A1	A2	A3	A4	G	Number	K/A Topic(s)	Imp.	Q#
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056 Condensate								X				A2.04	Ability to (a) predict the impacts of the following malfunctions or operations on the Condensate System; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of condensate pumps.	2.8	74
059 Main Feedwater				×								K4.19	Knowledge of MFW design feature(s) and/or interlock(s), which provide for the following: Automatic feedwater isolation of MFW.	3.4	8
059 Main Feedwater										X		A4.03	Ability to manually operate and monitor in the control room: Feedwater control during power increase and decrease.	2.9	9
061 Auxiliary / Emergency Feedwater						X						K6.02	Knowledge of the effect of a loss or malfunction of the following will have on the AFW components: Pumps.	2.7	10
063 DC Electrical Distribution			X						2			K3.02	Knowledge of the effect that a loss or malfunction of the DC electrical system will have on the following: Components using DC control power.	3.7	24
063 DC Electrical Distribution	×											K1.03	Knowledge of the physical connections and/or cause-effect relationships between the DC distribution system and the following systems: Battery Charger and battery	3.5	23
068 Liquid Radwaste															
071 Waste Gas Disposal					X							K5.04	Knowledge of the operational implication of the following concepts as they apply to the Waste Gas Disposal System: Relationship of hydrogen/oxygen concentrations to flammability.	3.1	11
072 Area Radiation Monitoring									X			A3.01	Ability to monitor automatic operation of the ARM system, including: Changes in ventilation alignment.	3.1	12
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											<u> </u>				
KA Category Point Totals:	1	0	1	2	2	2	2	2	2	5	1	Group Po	int Total:		20*

INDIAN POINT UNITS 2 & 3 PWR SRO Examination Outline Plant Systems – Tier 2/Group 2

		T	T	T	r				T						
System # / Name	K1	K2	K3	K4	K5	K6 1	Δ1	A2	Δ3	Δ4	G	Number	K/A Topio(o)	Iman	~ #
-/	1	1.0			1.0	1.0			1.0		0	Truinber	INA TOPIC(S)	imp.	Q#
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002 Reactor Coolant		Ι			ſ			Τ			T	
006 Emergency Core Cooling		x							K2.04	Knowledge of bus power supplies to the following: ESFAS-operated valves.	3.8	13
010 Pressurizer Pressure Control							X		A3.02	Ability to monitor automatic operation of the PZR PCS, including: PZR pressure.	3.5	14
011 Pressurizer Level Control		x							K2.02	Knowledge of bus power supplies to the following: PZR heaters.	3.2	15
012 Reactor Protection				x					K5.01	Knowledge of the operational implications of the following concepts as they apply to the RPS: DNB.	3.8	16
012 Reactor Protection								X	2.4.12	Emergency Procedures/Plan: Knowledge of general operating crew responsibilities during emergency operations	3.9	27
016 Non-nuclear Instrumentation								X	2.1.28	Conduct of Operations: Knowledge of the purpose and function of major system components and controls.	3.3	76
027 Containment Iodine Removal												
028 Hydrogen Recombiner and Purge Control												
029 Containment Purge												
033 Spent Fuel Pool Cooling						X			A2.02	Ability to (a) predict the impacts of the following malfunctions or operations on the Spent Fuel Pool Cooling System; and (b) based those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of SFPCS.	3.0	19
034 Fuel Handling Equipment			Х						K4.02	Knowledge of design features and/or interlocks which provide for the following: Fuel movement	3.3	32
035 Steam Generator								X	2.4.4	Emergency Procedures/Plan: Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.	4.3	20
039 Main and Reheat Steam	X								K1.06	Knowledge of the physical connections and/or cause-effect relationships between the MRSS and the following systems: Condenser steam dump.	3.0	21

INDIAN POINT UNITS 2 & 3 PWR SRO Examination Outline Plant Systems – Tier 2/Group 2

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System # / Name	K1	К2	КЗ	K4	K5	K6	A1	A2	A3	A4	G	Number	K/A Topic(s)	lmp.	Q#
	Cold State			accession of the second		the second s	And a state of the			are and the second state	And in case of the local diversion of the local diversion of the local diversion of the local diversion of the	Constanting strategy and the second strategy and the			

055 Condenser Air Removal			X									K3.01	Knowledge of the effect that a loss or malfunction of the CARS will have on the following: Main condenser.	2.7	22
062 AC Electrical Distribution											X	2.1.33	Conduct or Operations: Ability to recognize indications for system operating parameters which are entry level conditions for Technical Specifications	4.0	77
062 AC Electrical Distribution	×											K1.03	Knowledge of the physical connections and/or cause-effect relationships between the AC distribution system and the following systems: DC Distribution	4.0	26
064 Emergency Diesel Generator							X					A1.08	Ability to predict and/or monitor changes in parameters associated with operating the Emergency Diesel Generator (ED/G) System controls including: Maintaining minimum load on ED/G (to prevent reverse power)	3.4	25
073 Process Radiation Monitoring															
075 Circulating Water															
079 Station Air	X											K1.01	Knowledge of the physical connections and/or cause-effect relationships between the SAS and the following systems: IAS.	3.1	28
086 Fire Protection				x								K4.07	Knowledge of design feature(s) and/or interlock(s) which provide for the following: MT/G and T/G protection.	2.8	29
103 Containment		-													
K/A Category Point Totals:	3	2	1	2	1	0	1	1	1	0	4	Group Po	int Total:		16*

INDIAN POINT UNITS 2 & 3 PWR SRO Examination Outline Plant Systems – Tier 2/Group 3

System # / Name K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G Number K/A Topic(s) Imp	Q#
	_ ,,,

005 Residual Heat Removal								×				A2.02	Ability to (a) predict the impacts of the following malfunctions or operations on the RHRS, and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Pressure transient protection during cold shutdown.	3.7	30
008 Component Cooling Water								X				A2.02	Ability to (a) predict the impacts of the following malfunctions or operations on the CCWS, and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Consequences of High/Low Surge Tank Level	3.5	78
041 Steam Dump/Turbine Bypass Control									X			A3.03	Ability to monitor automatic operation of the SDS, including: Steam flow.	2.8	33
045 Main Turbine Generator															
076 Service Water															
078 Instrument Air											×	2.1.23	Conduct of Operations: Ability to perform specific system and integrated plant procedures during all modes of plant operation.	4.0	79
K/A Category Point Totals:	0	0	0	0	0	0	0	2	1	0	1	Group Po	⊥		4

	Plant-Specific Priorities		
System / Topic	Recommended Replacement for	Reason	Points
APE 054 G2.4.2 (Question 65)	EPE 038EK1.04	High PRA importance; Event as well as mitigating system	1
APE 058 AA2.03 (Question 67)	APE 060AK2.01	High PRA importance; Loss of high importance system	1
SYS 004 K6.17 (Question 3)	SYS 004K2.04	High PRA importance; Risk significant post-accident human error	1
APE 015/017 AA1.22 (Question 52)	APE 068 AA1.20	High PRA importance; Risk significant post-accident human error	1
EPE 038 EK3.01 (Question 69)	EPE E16 EK3.4	High PRA importance; Event as well as risk significant post- accident human error	1
SYS 012 Generic 2.4.12 (Question 27)	SYS 075 Generic 2.4.30	High PRA importance; Event as well as mitigating systems	1
Plant-Specific Priority Total: (limit 10)			6

Generic Knowledge and Abilities Outline (Tier 3)

Facility: Indiar	n Point Units	s 2 & 3 Date of Exam: 3/8/2003 Exam Lo	evel: S	SRO
Category	K/A #	Торіс	lmp.	Q#
	2.1.11	Knowledge of less than one hour technical specification action statements for systems.	3.8	80
Conduct of	2.1.20	Ability to execute procedure steps.	4.2	81
Operations	2.1.8	Ability to coordinate personnel activities outside the control room.	3.6	34
	Total		ter and the second data and	3
	2.2.6	Knowledge of the process for making changes in procedures as described in the safety analysis report.	3.3	82
1	2.2.22	Knowledge of LCOs and Safety Limits	4.1	83
	2.2.34	Knowledge of the process for determining the internal and external effects on core reactivity.	3.2	84
Equipment	2.2.33	Knowledge of control rod programming.	2.9	36
Control	2.2.2	Ability to manipulate the console controls as required to operate the facility between shutdown and designated power levels.	3.5	37
	2.2.13	Knowledge of tagging and clearance procedures.	3.8	35
	Total			6
Radiation Control	2.3.9	Knowledge of the process for performing a containment purge.	3.4	38
	Total			1
	2.4.45	Ability to prioritize and interpret the significance of each annunciator or alarm.	3.6	87
	2.4.4	Ability to recognize abnormal indications for system operating parameters which are entry level conditions for emergency and abnormal operating priocedures	4.3	85
	2.4.6	Knowledge of symptom based EOP mitigation strategies.	4.0	86
	2.4.24	Knowledge of loss of cooling water procedures.	3.7	88
Emergency Procedures /	2.4.12	Knowledge of general operating crew responsibilities during emergency operations.	3.9	89
Plan	2.4.29	Knowledge of the emergency plan.	4.0	40
	2.4.19	Knowledge of EOP layout, symbols, and icons.	3.7	39
· · · · · · · · · · · · · · · · · · ·	Total			7
Tier 3 Point Tota	I SRO			17

Tier / Group	Randomly Selected K/A	Reason for Rejection
2/1 (Question 23)	063 A4.03	No indication available for applicable topic in control room at facility. Replaced with randomly selected 063 K1.03.
1/2 (Question 97)	033 AA2.11	Redundant Topic (Double Jeopardy) with SYS 015K5.02 (Question 5). Replaced with manually selected 033 AA2.10.
1/3 (Question 100)	036 AA1.04	Would not yield 10CFR55.43(b) question for SRO. Replaced with manually selected Generic topic 2.2.28 to ensure coverage of 10CFR55.43(b) item 6 and/or 7 for SRO. (Was not randomly selected as part of generic tier 3).
2/2 (Question 26)	073 A1.01	Controls of PRM system are not operated in a manner that will cause change in the plant condition required by the topic. Replaced with randomly generated 062 K1.03
3 (Question 82)	2.1.18	Topic switched for RO 2.2.6 (RO 93) for SRO Only application
2/1 (Question 4)	013 A1.09	No suitable test item. Manually selected closest suitable KA to the selected topic (013A1.01)
1/1 (Question 41)	005 AK2.01	No suitable test item. Randomly selected topic in 005 area (005 AK1.03)
2/2 (Question 77)	062 A2.12	No suitable test item. Manually selected Generic topic 2.1.33 to ensure 10CFR55.43(b) coverage for SRO
2/3 (Question 78)	008 A2.07	No suitable test item. Manually selected 008 A2.02 in same topic area
1/2 (Question 98)	037 G2.1.30	Not suitable for SRO. Manually selected Generic topic 2.2.22 to ensure 10CFR55.43 (b) coverage for SRO
1/2 (Question 99)	E05 G2.1.27	Too many similar topics. Randomly selected E11 EK1.2 to replace
2/2 (Question 32)	034 K6.02	Too many similar topics. Randomly selected 034 K4.02 to replace
2/2 (Question 25)	064 K3.03	Post - review removal. No suitable replacement. Replaced with 064 A1.08
2/2 (Question 13)	006 K2.02	No suitable test item >LOD 1. Replaced per NRC Review comment. (006 K2.04)
2/1 (Question 75)	068 G2.4.31	Replaced at Chief Examiner request. Used same topic in 003 area
3/3 (Question 85)	G2.3.10	Replaced at Chief Examiner request. Used topic 2.4.4
3/3 (Question 86)	G2.3.2	Replaced at Chief Examiner request. Used topic 2.4.6

Facility: Indian	Point 2 & 3		Date	e of E	xam:		3/8/2	003		Ex	am L	.evel:	RO
					K	A Ca	itegor	ry Po	int				Point
Tier	Group	K 1	K 2	K 3	K 4	K 5	К 6	A 1	A 2	А З	A 4	G *	Total
1	1	4	0	3				4	5			0	16
Emergency &	2	1	2	3				5	4			2	17
Abnormal Plant	3	0	0	1				0	1			1	3
Evolutions	Tier Totals	5	2	7				9	10			3	36
_	1	3	0	0	5	3	2	1	1	4	4	1	24*
2. Plant	2	4	2	3	1	1	1	3	1	1	1	2	20
Systems	3	0	1	2	0	0	0	1	1	1	1	0	7*
	Tier Totals	7	3	5	6	4	3	5	3	6	6	3	51
3 Generic Kno	wledge an	d Ahi	litipe		Са	t 1	Ca	t 2	Са	t 3	Са	at 4	13
					3	3	4		2)		4	

Note: 1. Ensure that at least two topics from every K/A category are sampled within each tier (i.e., the "Tier Totals" in each K/A category shall not be less than two).

- The point total for each group and tier in the proposed outline must match that specified in the table. The final point total for each group and tier may deviate by ± 1 from that specified in the table based on NRC revisions. The final exam must total 100 points.
- 3. Select topics from many systems; avoid selecting more than two or three K/A topics from a given system unless they relate to plant-specific priorities.
- 4. Systems/evolutions within each group are identified on the associated outline.
- 5. The shaded areas are not applicable to the category/tier.
- 6.* The generic K/As in tiers 1 and 2 shall be selected from Section 2 of the K/A Catalog, but the topics must be relevant to the applicable evolution or system.
- 7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings for the SRO license level, and the point totals for each system and category. K/A's below 2.5 should be justified on the basis of plant-specific priorities. Enter the tier totals for each category in the table above.

* See Note 2 above

INDIAN POINT UNITS 2 & 3 PWR RO Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 1

E/APE # / Name / Safety Function	K1	К2	КЗ	A1	A2	G	Number	K/A Topic(s)	lmp.	Q#
00005 Inoperable/Stuck Control Rod / 1	X						AK1.03	Knowledge of the operational implications of the following concepts as they apply to the stuck rod: Xenon transient.	3.2	41
000015/17 RCP Malfunctions / 4				X			AA1.22	Ability to operate and/or monitor the following as they apply to the RCP malfunctions: RCP seal failure/malfunction	4.0	52
BW/E09; CE/A13; W/E09 & 10 Natural Circ./ 4			X				ЕКЗ.1	Knowledge of the reasons for the following responses as they apply to the (Natural Circulation Operations): Facility operating characteristics during transient conditions, including coolant chemistry and the effects of temperature, pressure, and reactivity changes and operating limitations and reasons for these operating characteristics.	3.3	42
000024 Emergency Boration / 1					X		AA2.04	Ability to determine and interpret the following as they apply to the Emergency Boration: Availability of BWST.	3.4	43
000026 / Loss of Component Cooling Water / 8			X				AK3.03	Knowledge of the reasons for the following responses as they apply to the Loss of Component Cooling Water: Guidance and actions contained in EOP for Loss of CCW/Nuclear Service Water.	4.0	44
000027 / Pressurizer Pressure Control System Malfunction / 3					X		AA2.15	Ability to determine and interpret the following as they apply to the Pressurizer Pressure Control Malfunctions: Actions to be taken if PZR pressure instrument fails high.	3.7	45
000040 (BW/E05; CE/E05; W/E12) / Steam Line Rupture – Excessive Heat Transfer / 4	X						AK1.06	Knowledge of the operational implications of the following concepts as they apply to Steam Line Rupture: High-energy steam line break considerations.	3.7	46
000040 (BW/E05; CE/E05; W/E12) / Steam Line Rupture – Excessive Heat Transfer / 4				X			EA1.2	Ability to operate and/or monitor the following as they apply to the (Uncontrolled Depressurization of all Steam Generators): Operating behavior characteristics of the facility.	3.6	47
CE/A11; W/E08 / RCS Overcooling - PTS / 4										
000051 / Loss of Condenser Vacuum / 4				X			AA1.04	Ability to operate and / or monitor the following as they apply to the Loss of Condenser Vacuum: Rod position.	2.5	48
000055 / Station Blackout / 6					х		EA2.01	Ability to determine or interpret the following as they apply to a Station Blackout: Existing valve positioning on a loss of instrument air system.	3.4	49
000057 / Loss of Vital AC Elec. Inst. Bus / 6			X				AK3.01	Knowledge of the reasons for the following responses as they apply to the Loss of Vital AC Instrument Bus: Actions contained in EOP for loss of vital AC electrical instrument bus.	4.1	50
000062 / Loss of Nuclear Service Water / 4					Х		AA2.01	Ability to determine and interpret the following as they apply to the Loss of Nuclear Service Water: Location of a leak in the CCWS.	2.9	51
000067 / Plant Fire On-site / 9										
000068 (BW/A06) / Control Room Evac. / 8										
000069 (W/E14) / Loss of CTMT Integrity / 5										

INDIAN POINT UNITS 2 & 3 PWR RO Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1/Group 1

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	Number	K/A Topic(s)	lmp.	Q#
			_							
000074 (W/E06 & E07) / Inad. Core Cooling / 4	X						EK1.05	Knowledge of the operational implications of the following concepts as they apply to the Inadequate Core Cooling: Definition of saturated liquid.	2.8	53
000074 (W/E06 & E07) / Inad. Core Cooling / 4	x						EK1.3	Knowledge of the operational implications of the following concepts as they apply to the (Degraded Core Cooling): Annunciators and conditions indicating signals, and remedial actions associated with the (Degraded Core Cooling).	3.7	54
000074 (W/E06 & E07) / Inad. Core Cooling / 4				X			EA1.2	Ability to operate and/or monitor the following as they apply to the (Saturated Core Cooling): Operating behavior characteristics of the facility.	3.2	55
BW/E03 / Inadequate Subcooling Margin / 4										
000076 / High Reactor Coolant Activity / 9					X		AA2.02	Ability to determine and interpret the following as they apply to the High Reactor Coolant Activity: Corrective actions required for high fission product activity in RCS.	2.8	56
BW/A02 & A03 / Loss of NNI-X/Y / 7						[
K/A Category Point Totals:	4	0	3	4	5	0		Group Point Total:	·	16

INDIAN POINT UNITS 2 & 3 PWR RO Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1/Group 2

						·			_
E/APE # / Name / Safety Function	K1	K2 K	3 A	1 A2	G	Number	K/A Topic(s)	lmp. Q#	

000001 / Continuous Rod Withdrawal / 1	// ***********************************			X		AA1.05	Ability to operate and / or monitor the following as they apply to the Continuous Rod Withdrawal: Reactor trip switches.	4.3	57
000003 / Dropped Control Rod / 1		×				AK2.05	Knowledge of the interrelations between the Dropped Control Rod and the following: Control rod drive power supplies and logic circuits.	2.5	58
000007 (BW/E02 & E10; CE/E02) / Reactor Trip – Stabilization – Recovery / 1									
BW/A01 / Plant Runback / 1									
BW/A04 / Turbine Trip / 4									
000008 / Pressurizer Vapor Space Accident / 3		X				AK2.02	Knowledge of the interrelations between the Pressurizer Vapor Space Accident and the following: Sensors and detectors.	2.7	59
000009 / Small Break LOCA / 3				X		EA1.18	Ability to operate and monitor the following as they apply to a small break LOCA: Balancing of HPI loop flows.	3.4	60
000011 / Large Break LOCA / 3				X		EA1.01	Ability to operate and monitor the following as they apply to a Large Break LOCA: Control of RCS pressure and temperature to avoid violating PTS limits.	3.7	61
W/E04 / LOCA Outside Containment / 3	x					EK1.3	Knowledge of the operational implications of the following concepts as they apply to the (LOCA Outside Containment): Annunciators and conditions indicting signals, and remedial actions associated with the (LOCA Outside Containment).	3.5	97
BW/E08; W/E03 / LOCA Cooldown / Depress. / 4									
W/E11 / Loss of Emergency Coolant Recirc. / 4									
WE/01 & 02 / Rediagnosis & SI Termination / 3			х			EK3.2	Knowledge of the reasons for the following responses as they apply to the Reactor Trip or Safety Injection/Rediagnosis: Normal, abnormal and emergency operating procedures associated with (Reactor Trip or Safety Injection/Rediagnosis).	3.0	62
WE/01 & 02 / Rediagnosis & SI Termination / 3					X	EA2.2	Ability to determine and interpret the following as they apply to the (SI Termination): Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments.	3.3	98
000022 / Loss of Reactor Coolant Makeup / 2				х		AA1.08	Ability to operate and/or monitor the following as they apply to the Loss of Reactor Coolant Pump Makeup: VCT level.	3.4	63
000025 / Loss of RHR System / 4					х	AA2.07	Ability to determine and interpret the following as they apply to the Loss of Residual Heat Removal System: Pump cavitation.	3.4	64
000029 / Anticipated Transient w/o Scram / 1									
000032 / Loss of Source Range NI / 7					x	AA2.04	Ability to determine and interpret the following as they apply to the Loss of Source Range instrumentation: Satisfactory Source Range/Intermediate Range overlap	3.1	72
000033 / Loss of Intermediate Range NI / 7									
000037 / Steam Generator Tube Leak / 3									

INDIAN POINT UNITS 2 & 3 PWR RO Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1/Group 2

E/APE # / Name / Safety Function	К1	K2	K3	A1	A2	G	N	lumber	K/A Topic(s)	Imp	Q#

000038 / Steam Generator Tube Rupture / 3			Х				EK3.01	Knowledge of the reasons for the following responses as they apply to the Steam Generator Tube Rupture: Equalizing pressure on primary and secondary sides of ruptured SG	4.1	69
000054 (CE/E06) / Loss of Main Feedwater / 4						х	2.4.2	Emergency Procedures/Plan: Knowledge of system setpoints, interlocks, and automatic actions associated with EOP entry conditions	3.9	65
BW/E04; W/E05 / Inadequate Heat Transfer – Loss of Secondary Heat Sink / 4						Х	2.4.6	Emergency Procedures/Plan: Knowledge of symptom based EOP mitigation strategies	3.1	100
000058 / Loss of DC Power / 8					Х		AA2.03	Ability to determine and interpret the following as they apply to the Loss of DC Power: DC loads lost. Impact on ability to operate and monitor plant systems	3.5	67
000058 / Loss of DC Power / 8			Х				AK3.02	Knowledge of the reasons for the following responses as they apply to the Loss of DC Power: Actions contained in EOP for loss of DC power.	4.0	99
000059 / Accidental Liquid Radwaste Rel. / 9										
000060 / Accidental Gaseous Radwaste Rel. / 9	1									
000061 / ARM System Alarms / 7				X			AA1.01	Ability to operate and/or monitor the following as they apply to the Area Radiation Monitoring (ARM) System Alarms: Automatic actuation.	3.6	68
W/E16 / High Containment Radiation / 9										
CE/E09 / Functional Recovery										
K/A Category Point Totals:	1	2	3	5	4	2		Group Point Total:		17

INDIAN POINT UNITS 2 & 3 PWR RO Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1/Group 3

Form ES-401-4

3

E/APE # / Name / Safety Function	K1	K2	К3	A1	A2	G	Number	K/A Topic(s)	Imp.	Q#
000028 / Pressurizer Level Malfunction / 2			x				AK3.02	Knowledge of the reasons for the following responses as they apply to the Pressurizer Level Control Malfunctions: Relationships between PZR pressure increase and reactor makeup/letdown imbalance	2.9	70
000036 (BW/A08) / Fuel Handling Accident / 8		1		<u> </u>	<u> </u>	_				
00056 / Loss of Off-site Power / 6					X		AA2.51	Ability to determine and interpret the following as they apply to the Loss of Offsite Power: ∆T, (core, heat exchanger, etc.)	3.3	71
00065 / Loss of Instrument Air / 8						X	2.1.2	Conduct of Operations: Knowledge of operator responsibilities during all modes of plant operation.	3.9	66
W/E13 & E14 / EOP Rules and Enclosures			1	1						
3W/A07 / Flooding / 8			[1						
E/A16 / Excess RCS Leakage / 2										
V/E13 / Steam Generator Over-pressure / 4										
V/E15 / Containment Flooding / 5		1								
		1				1				
		1								
			[
		1								

Group Point Total:

0

0

1

0

1

1

K/A Category Point Totals:

INDIAN POINT UNITS 2 & 3 PWR RO Examination Outline Plant Systems – Tier 2/Group 1

Form ES-401-4

System # / Name	K1	K2	КЗ	K4	K5	K6	A1	A2	A3	A4	G	Number	K/A Topic(s)	lmp.	Q#
												<u></u>			
001 Control Rod Drive				X								K4.02	Knowledge of CRDS design feature(s) and/or interlock(s) which provide for the following: Control rod mode select control (movement control).	3.8	73
001 Control Rod Drive									x			A3.05	Ability to monitor automatic operation of the CRDS, including: Individual versus group position	3.5	78
003 Reactor Coolant Pump									х			A3.04	Ability to monitor automatic operation of the RCPS, including: RCS flow.	3.6	1
003 Reactor Coolant Pump	_			x								K4.04	Knowledge of RCPS design feature(s) and/or interlock(s) which provide for the following: Adequate cooling of RCP motor and seals.	2.8	2
004 Chemical and Volume Control					х							K5.19	Knowledge of the operational implications of the following concepts as they apply to the CVCS: Concept of SDM.	3.5	74
004 Chemical and Volume Control						X						K6.17	Knowledge of the effect of a loss or malfunction of the following will have on the CVCS: Flow paths for emergency boration	4.4	3
013 Engineered Safety Features Actuation								x				A2.01	Ability to (a) predict the impacts of the following malfunctions or operations on the ESF Actuation System; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: LOCA	4.6	75
013 Engineered Safety Features Actuation							×					A1.01	Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the ESFAS controls including: RCS pressure and temperature.	4.0	4
013 Engineered Safety Features Actuation		1									х	A4.03	Ability to manually operate and/or monitor in the Control Room: ESFAS Initiation.	4.5	31
015 Nuclear Instrumentation					x							K5.02	Knowledge of the operational implications of the following concepts as they apply to the NIS: Discriminator/compensation operation.	2.7	5
015 Nuclear Instrumentation				x								K4.03	Knowledge of NIS design feature(s) and/or interlock(s) provide for the following: Reading of source range/intermediate range/power range outside Control Room.	3.9	76
017 In-Core Temperature Monitor	Х									+		K1.01	Knowledge of the physical connections and/or cause/effect relationship between the ITM system and the following: Plant computer	3.2	77

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INDIAN POINT UNITS 2 & 3 PWR RO Examination Outline Plant Systems - Tier 2/Group 1

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Sy	stem	# i	Nai	me

К2 КЗ

K1

K4 K5 K6 A1 A2 A3 A4 G Number

K/A Topic(s)

Imp.

Q#

017 In-Core Temperature Monitor					:		Х		A4.01	Ability to manually operate and/or monitor in the Control Room: Actual in-core temperatures.	3.8	6
022 Containment Cooling							х		A4.04	Ability to manually operate and/or monitor in the Control Room: Valves in the CCS.	3.1	7
025 Ice Condenser										SUPPRESSED		
056 Condensate	X							-	K1.03	Knowledge of the physical connections and/or cause-effect relationships between the Condensate system and the following systems: MFW	2.6	83
056 Condensate								X	2.1.2	Conduct of Operations: Knowledge of operator responsibilities during all modes of plant operation.	3.3	79
059 Main Feedwater		X							K4.19	Knowledge of MFW design feature(s) and/or interlock(s) which provide for the following: Automatic feedwater isolation of MFW.	3.2	8
059 Main Feedwater							х		A4.03	Ability to manually operate and monitor in the Control Room: Feedwater control during power increase and decrease.	2.9	9
061 Auxiliary / Emergency Feedwater				X					K6.02	Knowledge of the effect of a loss or malfunction of the following will have on the AFW components: Pumps.	2.6	10
061 Auxiliary / Emergency Feedwater		X							K4.04	Knowledge of AFW design feature(s) and/or interlock(s) which provide for the following: Prevention of AFW runout by limiting AFW flow.	3.1	80
068 Liquid Radwaste						X			A3.02	Ability to monitor automatic operation of the Liquid Radwaste System including: Automatic isolation.	3.6	81
068 Liquid Radwaste	X								K1.07	Knowledge of the interrelations and/or cause- effect relationships between the Liquid Radwaste System and the following: Sources of liquid waste for LRS.	2.7	82
071 Waste Gas Disposal			X						K5.04	Knowledge of the operational implication of the following concepts as they apply to the Waste Gas Disposal System: Relationship of hydrogen/oxygen concentrations to flammability.	2.5	11
072 Area Radiation Monitoring						X			A3.01	Ability to monitor automatic operation of the ARM system, including: Changes in ventilation alignment.	2.9	12

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System # / Name	K1	К2	КЗ	K4	K5	K6	A1	A2	A3	A4	G	Number	K/A Topic(s)	Imp.	Q#
K/A Category Point Totals:	3	0	0	5	3	2	1	1	4	4	1	Group Point Total:			24*

INDIAN POINT UNITS 2 & 3 PWR RO Examination Outline Plant Systems – Tier 2/Group 2

Form ES-401-4

Q#

System #∄Name

K3 K4 K5 K6 A1 A2 A3 A4 G Number

K2

K1

K/A Topic(s)

Imp.

002 Reactor Coolant			X								K4.02	Knowledge of RCS design features and/or interlocks which provide for the following: Monitoring reactor vessel level	3.5	84
002 Reactor Coolant					X						K6.02	Knowledge of the effect of a loss or malfunction on the following will have on the Reactor Coolant System (RCS): RCP	3.6	86
006 Emergency Core Cooling	х										K2.04	Knowledge of bus power supplies to the following: ESFAS-operated valves.	3.6	13
010 Pressurizer Pressure Control								X			A3.02	Ability to monitor automatic operation of PZR PCS, including: PZR pressure.	3.6	14
011 Pressurizer Level Control	X										K2.02	Knowledge of bus power supplies to the following: PZR heaters.	3.1	15
012 Reactor Protection				х							K5.01	Knowledge of the operational implications of the following concepts as they apply to the RPS: DNB.	3.3	16
012 Reactor Protection										x	2.4.12	Emergency Procedures/Plan: Knowledge of general operating crew responsibilities during emergency operations	3.4	27
014 Rod Position Indication									х		A4.01	Ability to manually operate and/or monitor in the Control Room: Rod selection control.	3.3	17
016 Non-nuclear Instrumentation		X									K3.04	Knowledge of the effect that a loss or malfunction of the NNIS will have on the following: MFW system.	2.6	85
026 Containment Spray						x					A1.01	Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the CSS controls including: Containment pressure.	3.9	18
029 Containment Purge														
033 Spent Fuel Pool Cooling							x				A2.02	Ability to (a) predict the impacts of the following malfunctions or operations on the Spent Fuel Pool Cooling System; and (b) based those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of SFPCS.	2.7	19
035 Steam Generator										X	2.4.4	Emergency Procedures/Plan: Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.	2.5	20

INDIAN POINT UNITS 2 & 3 PWR RO Examination Outline Plant Systems – Tier 2/Group 2

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System # / Name	K1	K2 K3	K4 K5	K6 A1	A2	A3	A4	G Number	K/A Topic(s)	Imp.	Q#
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039 Main and Reheat Steam	×											K1.06	Knowledge of the physical connections and/or cause-effect relationships between the MRSS and the following systems: Condenser steam dump.	3.1	21
055 Condenser Air Removal			X									КЗ.01	Knowledge of the effect that a loss or malfunction of the CARS will have on the following: Main condenser.	2.5	22
062 AC Electrical Distribution	×											K1.03	Knowledge of the physical connections and/or cause-effect relationships between the AC distribution system and the following systems: DC Distribution	3.5	26
063 DC Electrical Distribution	X											K1.03	Knowledge of the physical connections and/or cause-effect relationships between the DC distribution system and the following systems: Battery Charger and battery	2.9	23
063 DC Electrical Distribution			X									K3.02	Knowledge of the effect that a loss or malfunction of the DC Electrical System will have on the following: Components using dc control power.	3.5	24
064 Emergency Diesel Generator							X					A1.08	Ability to predict and/or monitor changes in parameters associated with operating the Emergency Diesel Generator (ED/G) System controls including: Maintaining minimum load on ED/G (to prevent reverse power)	3.1	25
073 Process Radiation Monitoring							1								
075 Circulating Water					1				1						
079 Station Air	X											K1.01	Knowledge of the physical connections and/or cause-effect relationships between the SAS and the following systems: IAS.	3.0	28
086 Fire Protection				x								K4.07	Knowledge of design feature(s) and/or interlock(s) which provide for the following: MT/G and T/G protection.	2.5	29
	Ī								I						
K/A Category Point Totals:	4	2	3	1	1	1	3	1	1	1	2	Group Point Total:			20

INDIAN POINT UNITS 2 & 3 PWR RO Examination Outline Plant Systems – Tier 2/Group 3

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System # / Name	K1 K2 K3 K4	K5 H	K6 : A1	A2 A3 A4	G Number	K/A Topic(s)	lmn ∩#
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005 Residual Heat Removal								×				A2.02	Ability to (a) predict the impacts of the following malfunctions or operations on the RHRS, and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Pressure transient protection during cold shutdown.	3.5	30
007 Pressurizer Relief/Quench Tank															
008 Component Cooling Water			X									K3.01	Knowledge of the physical connections and/or cause-effect relationships between the CCWS and the following: Loads cooled by CCWS	3.4	90
027 Containment Iodine Removal										X		A4.01	Ability to manually operate and/or monitor in the Control Room: CIRS controls.	3.3	32
028 Hydrogen Recombiner and Purge Control															
034 Fuel Handling Equipment					-			Τ							
041 Steam Dump/Turbine Bypass Control									X			A3.03	Ability to monitor automatic operation of the SDS, including: Steam flow.	2.7	33
045 Main Turbine Generator							x					A1.06	Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the MT/G system controls including: Expected response of secondary plant parameters following T/G trip.	3.3	88
076 Service Water		х										K2.01	Knowledge of bus power supplies to the following: Service water.	2.7	89
076 Service Water			х									K3.07	Knowledge of the effect that a loss or malfunction of Service Water will have on the following: ESF loads	3.7	87
078 Instrument Air		[1			1			
103 Containment															
K/A Category Point Totals:	0	1	2	0	0	0	1	1	1	1	0	D Group Point Total:			7*

	Plant-Specific Priorities		<u></u>
System / Topic	Recommended Replacement for	Reason	Points
APE 054 G2.4.2 (Question 65)	EPE 03.8EK1.04	High PRA importance; Event as well as mitigating system	1
APE 058 AA2.03 (Question 67)	APE 060AK2.01	High PRA importance; Loss of high importance system	1
EPE E05 G2.4.6 (Question 100)	APE 059AA2.02	High PRA importance; Event as well as mitigating systems	1
SYS 004 K6.17 (Question 3)	SYS 004K2.04	High PRA importance; Risk significant post-accident human error	1
APE 015/017 AA1.22 (Question 52)	APE 068 AA1.20	High PRA importance; Risk significant post-accident human error	1
EPE 038 EK3.01 (Question 69)	EPE E16 EK3.4	High PRA importance; Event as well as risk significant post- accident human error	1
SYS 008 K3.01 (Question 90)	SYS 103 A4.01	High PRA importance; Risk significant post-accident human error	1
SYS 012 Generic 2.4.12 (Question 27)	SYS 075 Generic 2.4.30	High PRA importance; Event as well as mitigating systems	1
Plant-Specific Priority Total: (limit 10)			8

Generic Knowledge and Abilities Outline (Tier 3)

Facility: Indiar	n Point Unite	s 2 & 3 Date of Exam: 3/8/2003 Exam L	evel:	RO					
Category	K/A #	Торіс	Imp.	. Q#					
	2.1.2	Knowledge of operator responsibilities during all modes of plant operation.	3.0	91					
	2.1.18	Ability to make accurate, clear and concise logs, records, status boards, and reports.	ility to make accurate, clear and concise logs, 2.9 cords, status boards, and reports.						
Conduct of Operations	2.1.8	Ability to coordinate personnel activities outside the Control Room.	34						
	Total		L	3					
	2.2.12	Knowledge of surveillance procedures.	3.0	92					
Equipment	2.2.13	Knowledge of tagging and clearance procedures.	3.6	35					
Control	2.2.33	Knowledge of control rod programming.	2.5	36					
	2.2.2	Ability to manipulate the console controls as required to operate the facility between shutdown and designated power levels.	4.0	37					
	Total			4					
	2.3.4	Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized.	2.5	94					
Radiation Control	2.3.9	Knowledge of the process for performing a containment purge.	2.5	38					
	Total			2					
	2.4.14	Knowledge of general guidelines for EOP flowchart use.	3.0	95					
Emergency Procedures / Plan	2.4.34	Knowledge of RO tasks performed outside the main control room during emergency operations including system geography and system implications.	3.8	96					
	2.4.19	Knowledge of EOP layout, symbols, and icons.	2.7	39					
	2.4.29	Knowledge of the emergency plan.	2.6	40					
	Total			4					
Tier 3 Point Total RO									

Tier / Group	Randomly Selected K/A	Reason for Rejection
1/2 (Question 72)	054 G2.2.25	No connection to 10CFR55.41 for RO. Replaced with randomly generated 032 AA2.04
2/2 (Question 23)	063 A4.03	No indication available for applicable topic in control room at facility. Replaced with randomly generated 063 K1.03.
2/1 (Question 78)	056 G2.2.22	No connection to 10CFR55.41 for RO and no TS connection to system. Replaced with randomly generated 001 A3.05
2/1 (Question 83)	071 A4.27	No indication or control available in control room. Replaced with randomly generated 056 K1.03
2/1 (Question 75)	013 K4.17	Operation not performed at facility. Replaced with randomly generated 013 A2.01
2/1 (Question 74)	004 K5.02	Potential Double Jeopardy with 071K5.04. Replaced with manually selected 004 K5.19. (Manually selected the next topic with same KA importance value)
2/2 (Question 26)	073 A1.01	Controls of PRM system are not operated in a manner that will cause change in the plant condition required by the topic. Replaced with randomly generated 062 K1.03
3 (Question 93)	2.2.6	Not RO level topic. Replaced by trading topic with SRO 2.1.18 (SRO 82)
2/1 (Question 4)	013A1.09	No suitable test item. Manually selected closest suitable KA to the selected topic (013A1.01)
1/1 (Question 41)	005 AK2.01	No suitable test item. Randomly selected topic in 005 area (005 AK1.03)
2/1 (Question 77)	017 K4.02	No suitable test item. Randomly selected topic in area (017 K1.01)
2/3 (Question 87)	007A2.06	No suitable test item. Randomly selected topic in area (076 K3.07)
2/2 (Question 86)	029 A1.02	No suitable test item. Randomly selected topic in area (002 K6.02)
2/3 (Question 32)	034 K6.02	Related item on exam. Randomly selected topic in area (027 A4.01)
2/1 (Question 82)	068 A2.04	Related item on exam. Randomly selected topic in area (068 K1.07)
2/3 (Question 31)	028 A4.01	No suitable test item. Randomly selected topic in area (028 K6.01)
2/2 (Question 13)	006 K2.02	No suitable test item >LOD 1. Replaced per NRC Review comment. (006 K2.04)
2/2 (Question 84)	002 K5.19	No suitable test item operationally oriented. Replace d per NRC review comment (002 K4.02)
2/2 (Question 25)	064 K3.03	Post - review removal. No suitable replacement. Replaced with 064 A1.08