## LICENSEE/NRC COMMENTS TO THE PROPOSED WRITTEN EXAMINATION, ES-401-9 FOR THE QUAD CITIES NUCLEAR POWER STATION INITIAL EXAM - JUNE 2007

	1.	2.		3. Psyc	hometr	ic Flaws	3	4.	Job Cont	ent Fl	aws	5. C	ther	6.	7.
Q#	LOK (F/H)		Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward		SRO Only	U/E/S	Explanation
1															
2														ш	Made minor word changes to improve human factors
3		5												Ü	Replaced Q since not required to know Ground Levels from memory
4															
5		·													
6							:	:						E	Deleted reference to 'human error' cause of condition. Removed reference to "Old Computer Room" and replaced with Aux Electric Rm.
7			<u> </u>											Ε	Made minor word changes to improve human factors.
8	i													Е	Made minor word changes to improve human factors. Changed word order in distractor A to improve discrimination value of quesition.
9			х											U	Changed Mode from 4 to 3. Made other minor word changes to improve human factors.

[Refer to Section D of ES-401 and Appendix B for additional information regarding each of the following concepts.]

- Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
- Enter the level of difficulty (LOD) of each question using a 1 5 (easy difficulty rating scale (questions in the 2 4 range are acceptable).

Check the appropriate box if a psychometric flaw is identified:

The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).

The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc). The answer choices are a collection of unrelated true/false statements.

More than one distractor is not credible.

One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).

Check the appropriate box if a job content error is identified:

The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).

The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).

The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).

The question requires reverse logic or application compared to the job requirements.

- Check questions that are sampled for conformance with the approved K/A and those that are designated SRO-only (K/A and license level mismatches are unacceptable).
- Based on the reviewer's judgment, is the question as written (U)nacceptable (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
- At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are instinctional met).

Q#	1. LOK	2. LOD	3	. Psycl	homet	ric Flaw	rs .	4.	Job Cont	ent Fl	aws	5. O	ther	6.	7.
ÿ	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/S	Explanation
10								·						E	Made minor word changes to improve human factors.
11														E	Made minor word changes to improve human factors. Added references to ERV lifting vs a relief valve lifting.
12														Е	Added statement of condition at power.
13														E	Capitalized 'required'
14														E	Made minor word changes to improve human factors. Distractor change, Added 'automatic' to fan damper.
15						×								U	Made minor word changes to improve human factors. Technical change: deleted reference to DWSIL limit and changed distractors to make them more plausible.
16															
17			х											Ü	Had to add blanks to 2 part question!
18														Е	Made minor word changes to improve human factors.
19				:											
20														ш	Changed all distractors based on comments from validation crew. Added ref QCOA to distractors C & D to ensure both are wrong.
21														E	Added 'Stator Water Runback' condition to question stem.
22														E	Reconstructed question stem to improve human factors
23						х								U	Not plausible for swell to be caused by hot feedwater, changed to HPCI injecting. Also reduced verbiage in stem for human factors.
24															
25	_													Е	Remove adverb 'sluggishly' replaced with slowly.
26															

ES-401			_3		Form ES-401-9

Q#	1. LOK	2. LOD	3	. Psycl	homet	ric Flaw	s	4.	Job Cont	ent Fla	aws	5. Other		6.	7.
ÿ	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q≃ K/A	SRO Only	U/E/S	Explanation
27		ï												Е	Capitalized FIRST. Human factors changes.
28														Е	Replaced Should with Must. Deleted reference to testing torus sprays in stem. Confusing to operators, no value added.
29														E	Added noun name for valve.
30			×							_				υ	Changed Mode from 4 to 3. Also changed temperature from 220 to 320 since it 'violated' steam tables. Replaced increase and increasing with rise and raising. Added valve noun names.
31							:							E	Restructured question stem for human factors. Added valve noun names
32														Ę	Added 'automatically' to question.
33									х			×		υ	Replaced Q since operators not required to know booster pump RPM. Booster pump RPM not indicated on CR panels. Did not match K/A.
34														E	Added valve noun names for 1402-24 and 25 valves.
35														Е	Changed distractor from HPCI to Core Spray pump.
36														Е	Capitalized LOW and HIGH, replaced 'injection pipe' with 'sparger'
37						х								U	Added 'half scram' to A and D distractors instead of '½ scram'
38								_						E	Capitalized ONLY
39															(Need to check quotation marks on distractors!)
40														?	Students not taught TS value of HI APRM scram setpoint but taught analytical value from UFSAR. Changed answer to accept UFSAR ans.
41														E	Changed distractor A from 125 VDC 1A to 125VDC 2B to make it more clearly wrong.
42															
43														E	Changed distractors for human factors
44															

Q#	1. LOK	2. LOD	3	. Psycl	nomet	ric Flaw	s	4.	Job Cont	tent Fla	ews	5. C	ther	6.	7.
	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia		Back- ward	Q= K/A	SRO Only	U/E/S	Explanation
45											_				
46															
47															
48			х											J	Changed from U1 to U2 since mods completed on U2. Changed bus from ESS to Instrument bus. Changed distractor from 1A to 2B FWRV.
49														Е	Changed wording for human factors consideration. Changed distractor C to reflect proper nomenclature of switchgear.
50															
51						X							į	U	More than one correct answer. Added assumption statement in stem of question to limit one correct answer.
52														Е	Reworded question stem to eliminate references to human error.
53															
54				_											
55														E	Reworded 'C' distractor
56						х								U	2 correct answers. Changed distractor to include RWCU demin bypass valve instead of lower RBCCW system temperature.
57			X			]				,		<b>!</b>		U	Changed question based on input from operators. Changed stem to include multiple reed switch failures. Changed distractors to meet facility technical requirements.
58															
59															
60														E	Changed 'D' distractor
61															
62														Ε	Replaced 'valving error' with 'minor transient' to remove references to human error. Deleted 'bypass pump' from 'C' distractor

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Q#	LOK (F/H)	LOD (1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/S	Explanation
63										х				U	Had U1 components in stem for a U2 question.
64															
65														Е	Removed 'spent' from spent fuel pool. Local vernacular.
66							:								
67		,													
68															
69					C 10									Ę	Changed question stem to running HPCl in lieu of running RCIC since heat load from RCIC into torus is much smaller than HPCl.
70						х			:					U	Changed distractors B, C & D from 'valve that is opened and torqued on its backseat' to 'MO valve that is opened, deenergized and has the handwheel removed.' This prevents having multiple correct answers
71						х								U	Changed stem and distractors since required knowledge TS LCO >1 hr.
72														E	Added RP admin procedure reference since licensee has more restrictive site limits for exceeding allowed exposure.
73														Е	Added verbiage in question stem to more clearly explain exceptional condition.
74														E	Minor word changes to improve human factors.
75														Е	Changed terminology for RPS status lights.
76															
77															
78														E	Lowered Rx power from 28% to 26% to allow a greater margin to TBV operation.
79														E	Reworded stem of question to delete reference to human error. Changed wording in distractors for human factors.

Q#	1. LÖK	2. LOD	3	. Psyc	homet	ric Flaw	'S	4	Job Conf	ent Fl	aws	5. O	ther	6.	7.
L"	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/S	Explanation
80	:					х								U	Added "manual Group II and SBGT start" to the stem, to ensure applicability per 50.73(a)(2)(iv)(A) (d distractor.) Changed time from 4 hrs to 8 hrs since original time was incorrect.
81															
82						х								U	With Rev 4 to EALs, DW Temp alone is not an indication of breach of ctmt fission product barrier. Added venting torust procedure in progress. Ans. Key has D as correct but A is correct. Removed numerical reference to RCS activity and replaced with fuel failed in Q stem.
83						х								U	Altered the stem and distractors for easier reading. Distractor A modified since 2 possible correct answers.
84			х											U	Wrong answer in answer key
85														U	Replaced question since previous question duplicates operating test. Changed from RWCU leak to steam leak in RCIC room.
86														E	Incorporated word changes for human factors
87						х								U	Added additional surveillance reqt.
88		X		х										U	Deleted reference to needing a dwg. Replaced question since cue in stem gave away answer
89															
90															
91															
92			x											U	2 correct answers. Added LOWEST to stem to differentiate distractor subsets.
93															
94															
95			×											U	Reformatted for 2 part question. 2 correct answers. Added MAXIMUM to stem to differentiate distractor subsets.
96														Ē	Reworded stem to increase clarity.
97		х												υ	Replaced question due to knowledge beyond SRO memory

Q#	1. LOK	2. LOD	3. Psychometric Flaws		4.	Job Conf	tent Fl	aws	5. C	5. Other		7.			
3,	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/S	Explanation
98		Х												U	Replaced question due to knowledge beyond SRO memory.
99		Х												J	Replaced question due to knowledge beyond SRO memory.
100															