

Facility: <u>TURKEY POINT 2011-302</u>		Date of Examination: _____
Developed by: Written - Facility <input checked="" type="checkbox"/> NRC <input type="checkbox"/> // Operating - Facility <input checked="" type="checkbox"/> NRC <input type="checkbox"/>		
Target Date*	Task Description (Reference)	Chief Examiner's Initials
-180	1. Examination administration date confirmed (C.1.a; C.2.a and b) <u>4/18/11</u>	<u>JBH</u>
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e) <u>4/18/11</u>	<u>JBH</u>
-120	3. Facility contact briefed on security and other requirements (C.2.c) <u>4/18/11</u>	<u>JBH</u>
-120	4. Corporate notification letter sent (C.2.d) <u>4/29/11</u>	<u>JBH</u>
[-90]	[5. Reference material due (C.1.e; C.3.c; Attachment 3)] <u>8/29/11</u>	<u>JBH</u>
{-75}	6. Integrated examination outline(s) due, including Forms ES-201-2, ES-201-3, ES-301-1, ES-301-2, ES-301-5, ES-D-1's, ES-401-1/2, ES-401-3, and ES-401-4, as applicable (C.1.e and f; C.3.d) <u>8/29/11</u>	<u>JBH</u>
{-70}	{7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)} <u>9/14/11</u>	<u>JBH</u>
{-45}	8. ^(DRAFT) Proposed examinations (including written, walk-through JPMs, and scenarios, as applicable), supporting documentation (including Forms ES-301-3, ES-301-4, ES-301-5, ES-301-6, and ES-401-6, and any Form ES-201-3 updates), and reference materials due (C.1.e, f, g and h; C.3.d) <u>10/5/11</u>	<u>JBH</u>
-30	9. Preliminary license applications (NRC Form 398's) due (C.1.i; C.2.g; ES-202) <u>11/4/11</u>	
-14	10. Final license applications due and Form ES-201-4 prepared (C.1.i; C.2.i; ES-202) <u>11/21/11</u>	
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f and h; C.3.g)	
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	
-7	14. Final applications reviewed; 1 or 2 (if >10) applications audited to confirm qualifications / eligibility; and examination approval and waiver letters sent (C.2.i; Attachment 5; ES-202, C.2.e; ES-204)	
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k)	
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	
<p>* Target dates are generally based on facility-prepared examinations and are keyed to the examination date identified in the corporate notification letter. They are for planning purposes and may be adjusted on a case-by-case basis in coordination with the facility licensee.</p> <p>[Applies only] {Does not apply} to examinations prepared by the NRC.</p>		

N-1: Bruno Caballero assumed Acting Branch Chief DBI on 10/9/11;
Edwin Lea became Chief Examiner.

Facility: <u>Turkey Point</u>		Date of Examination: <u>Dec 2011</u>		
Item	Task Description	Initials		
		a	b*	c#
1. W R I T T E N	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.	NB	N/A	BNL
	b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 and whether all K/A categories are appropriately sampled.	NB	↓	BNL
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	NB	↓	BNL
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	N/A	N/A	N/A
2. S I M U L A T O R	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, technical specifications, and major transients.	(N-1)		
	b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity, and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s), and that scenarios will not be repeated on subsequent days.			
	c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D.			
3. W /	a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2: (1) the outline(s) contain(s) the required number of control room and in-plant tasks distributed among the safety functions as specified on the form (2) task repetition from the last two NRC examinations is within the limits specified on the form (3) no tasks are duplicated from the applicants' audit test(s) (4) the number of new or modified tasks meets or exceeds the minimums specified on the form (5) the number of alternate path, low-power, emergency, and RCA tasks meet the criteria on the form.	(N-1)		
	b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) the tasks are distributed among the topics as specified on the form (2) at least one task is new or significantly modified (3) no more than one task is repeated from the last two NRC licensing examinations			
	c. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.			
4. G E N E R A L	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.	NB	N/A	
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	NB	↓	
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	NB	↓	
	d. Check for duplication and overlap among exam sections.	NB	↓	
	e. Check the entire exam for balance of coverage.	NB	↓	
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	NB	↓	
a. Author		Printed Name/Signature: <u>MARK BATES FOR P.C. APPEAL</u> / <u>Mark Bates</u>		Date: <u>3-18-11</u>
b. Facility Reviewer (*)		N/A		N/A
c. NRC Chief Examiner (#)		<u>BRUNO CABALLERO</u> / <u>Bruno Caballero</u>		<u>3-18-11</u>
d. NRC Supervisor		<u>MAURICE T. WIDMANN</u> / <u>Maurice Widmann</u>		<u>03/18/11</u>
Note: # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required. * Not applicable for NRC-prepared examination outlines				

(N-1) This quality checklist is only for the written exam outline.

Facility: Turkey Point		Date of Examination: 12/05/11		
Item	Task Description	Initials		
		a	b*	c#
1. W R I T T E N	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.	RM	CB	BA *
	b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 and whether all K/A categories are appropriately sampled.	RM	CB	BA *
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	RM	CB	BA *
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	RM	CB	BA *
2. S I M U L A T O R	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, technical specifications, and major transients.	RM	CB	LI
	b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity, and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s), and that scenarios will not be repeated on subsequent days.	RM	CB	LI
	c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D.	RM	CB	LI
3. W / T	a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2: (1) the outline(s) contain(s) the required number of control room and in-plant tasks distributed among the safety functions as specified on the form (2) task repetition from the last two NRC examinations is within the limits specified on the form (3) no tasks are duplicated from the applicants' audit test(s) (4) the number of new or modified tasks meets or exceeds the minimums specified on the form (5) the number of alternate path, low-power, emergency, and RCA tasks meet the criteria on the form.	RM	CB	LI
	b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) the tasks are distributed among the topics as specified on the form (2) at least one task is new or significantly modified (3) no more than one task is repeated from the last two NRC licensing examinations	RM	CB	LI
	c. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.	RM	CB	LI
4. G E N E R A L	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.	RM	CB	LI
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	RM	CB	LI
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	RM	CB	LI
	d. Check for duplication and overlap among exam sections.	RM	CB	LI
	e. Check the entire exam for balance of coverage.	RM	CB	LI
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	RM	CB	LI
a. Author		Robert Heidecker		Printed Name/Signature
b. Facility Reviewer (*)		Sean Bloom		
c. NRC Chief Examiner (#)		Edwin Lea		11/19/11
d. NRC Supervisor		Bruno Caballero		11/26/11
		Michael Jung		11/23/2011
				12-1-11
Note: # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required. * Not applicable for NRC-prepared examination outlines				

* BRUNO CABALLERO/BCaballero 11-30-11

1. Pre-Examination

Lacknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 12/05/11 - 12/16/11 as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of 12/05/11 - 12/16/11. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	<u>Mark Wilson</u>	<u>Chief Licensed Instructor / Exam Developer</u>	<u>[Signature]</u>	<u>12/16/11</u>	<u>[Signature]</u>	<u>1/3/12</u>	
2.	<u>JOSEPH ARSENAULT</u>	<u>EXAM DEVELOPER</u>	<u>[Signature]</u>	<u>3/12/11</u>	<u>[Signature]</u>	<u>1/12/12</u>	<u>per phone call</u>
3.	<u>DAVID LAZAROVY</u>	<u>EXAM DEVELOPER</u>	<u>[Signature]</u>	<u>3/12/11</u>	<u>[Signature]</u>	<u>1/12/12</u>	<u>per phone call</u>
4.	<u>Rusty Quick</u>	<u>Exam Developer</u>	<u>[Signature]</u>	<u>4/11/11</u>	<u>[Signature]</u>	<u>1/12/12</u>	<u>per phone call</u>
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2. Post-Examination

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PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE NOTE
1. Robert Heidecker	Exam Developer/Validation	[Signature]	4/1/11	[Signature]	12/22/11
2. Sherry Cox	RP Instructor	[Signature]	5/4/11	[Signature]	12/16/11
3. SEAN BLOOM	Facility Representative	[Signature]	5/16/11	[Signature]	1/7/12
4. William Burrows	Exam Validation	[Signature]	6/13/11	[Signature]	1/23/12
5. ED TREMBLAY	EXAM VALIDATION	[Signature]	6/13/11	[Signature]	1/10/12
6. [Signature]	Exam Validation	[Signature]	6/13/11	[Signature]	1/10/12
7. Jurgens	Exam Validation	[Signature]	6/13/11	[Signature]	1/3/12
8. Jurgens	RP / Exam Validation	[Signature]	6/13/11	[Signature]	2/13/12
9. MARSHALL MARRAS	EXAM Validation	[Signature]	6/15/11	[Signature]	2/23/12
10. FRANK LEON	SIM ENGR.	[Signature]	6/15/11	[Signature]	1-25-12
11. George Ayrissini	SIM ENGR.	[Signature]	6/15/11	[Signature]	1-25-12
12. Bill Dusha	ILC	[Signature]	6-28-11	[Signature]	08-27-12
13. TOM WENDEW	SIM ENGR	[Signature]	6-28-11	[Signature]	1-3-12
14.					
15.					

NOTES:

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PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1. Robert Henderson	Exam Developer/Validation	[Signature]	4/24/11			
2. Jerry Cox	RP Instructor	[Signature]	5/24/11			
3. SEAN BROWN	Facility Representative	[Signature]	5/11/11			
4. William Bussard	Exam Validation	[Signature]	6/15/11			
5. ED TREMBLAY	Exam Validation	[Signature]	6/15/11			
6. [Signature]	Exam Validation	[Signature]	6/15/11			
7. Jurgens	Exam Validation	[Signature]	6/15/11			
8. [Signature]	RP / Exam Validation	[Signature]	6/15/11			
9. [Signature]	Exam Validation	[Signature]	6/15/11			
10. FRANK LEON	SIM ENGR.	[Signature]	6/15/11			
11. GARY HAYSEN	SIM ENGR.	[Signature]	6/15/11			
12. BOB DUNN	VIC	[Signature]	6/15/11			
13. TOM WENDEW	SIM ENGR.	[Signature]	6-28-11			
14. MARK SOWORE	MGR FLEET / PR TRAINING	[Signature]	7/23/11			
15. MARK SKETCHLEY	FLEET ILC COORDINATOR	[Signature]	11/21/11			

NOTES:

* Signed off per telecon

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2. Post-Examination

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PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1. G.A. LUGALIN	Ops Training Manager/site supr	<i>[Signature]</i>	7/19/11	<i>[Signature]</i>	1/3/12	
2. J.R. Conder	Ops Continuity Ing Supr	<i>[Signature]</i>	7/22/11	<i>[Signature]</i>	1/3/12	
3. J. PORTER	RCC	<i>[Signature]</i>	8/12/11	<i>[Signature]</i>	1/3/12	
4. C. TRENT	UNIT SUPERVISOR	<i>[Signature]</i>	8/12/11	<i>[Signature]</i>	1/3/12	
5. R. Kell	Shift Manager	<i>[Signature]</i>	8/12/11	<i>[Signature]</i>	1/3/12	
6. Cm. VASQUEZ	RCC	<i>[Signature]</i>	8-12-11	<i>[Signature]</i>	1/3/12	
7. Jose A Vasquez	UNIT SUPERVISOR	<i>[Signature]</i>	8-12-11	<i>[Signature]</i>	1/3/12	
8. Ed Bertram	Unit Supervisor	<i>[Signature]</i>	8-12-11	<i>[Signature]</i>	1/3/12	
9. Stephen Maack	RCC	<i>[Signature]</i>	8/19/11	<i>[Signature]</i>	1/3/12	
10. George L. FORD	TRAINING	<i>[Signature]</i>	8/19/11	<i>[Signature]</i>	1/3/12	
11. Neil Constant	Training Manager	<i>[Signature]</i>	8/22/11	<i>[Signature]</i>	1/3/12	
12. D. DEWIDOR	RO	<i>[Signature]</i>	8/23/11	<i>[Signature]</i>	1/3/12	
13. Virgny Barry	Unit Shift Supr	<i>[Signature]</i>	8/23/11	<i>[Signature]</i>	1/3/12	
14. Randy Flynn	SM	<i>[Signature]</i>	8/23/11	<i>[Signature]</i>	1/3/12	
15. Tim Jones	Shift Manager	<i>[Signature]</i>	8/25/11	<i>[Signature]</i>	1/3/12	

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2. Post-Examination

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PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE NOTE
1. <u>Jesse McKee</u>	<u>Unit Supervisor (Supervisor)</u>	<u>[Signature]</u>	<u>8/30/11</u>	<u>[Signature]</u>	<u>1/24/12</u>
2. <u>Murphy</u>	<u>Shift Manager</u>	<u>[Signature]</u>	<u>8/30/11</u>	<u>[Signature]</u>	<u>1-17-12</u>
3. <u>R. Borgerson</u>	<u>SRO</u>	<u>[Signature]</u>	<u>8-30-11</u>	<u>[Signature]</u>	<u>1-17-12</u>
4. <u>AD Hunter</u>	<u>SRO</u>	<u>[Signature]</u>	<u>8-30-11</u>	<u>[Signature]</u>	<u>1-17-12</u>
5. <u>Mark Frasier</u>	<u>RCO</u>	<u>[Signature]</u>	<u>8/30/11</u>	<u>[Signature]</u>	<u>1-17-12</u>
6. <u>Luis Soria</u>	<u>RCO</u>	<u>[Signature]</u>	<u>9/14/11</u>	<u>[Signature]</u>	<u>1-17-12</u>
7. <u>Ronald Carter</u>	<u>RCO</u>	<u>[Signature]</u>	<u>9-27-11</u>	<u>[Signature]</u>	<u>1-17-12</u>
8. <u>R. Montgomery</u>	<u>SRO</u>	<u>[Signature]</u>	<u>9/27/11</u>	<u>[Signature]</u>	<u>1-17-12</u>
9. <u>Theresa White</u>	<u>Lead Instructor</u>	<u>[Signature]</u>	<u>4-28-11</u>	<u>[Signature]</u>	<u>1/3/12</u>
10. <u>John Bromley</u>	<u>Chem Inst</u>	<u>[Signature]</u>	<u>9-30-11</u>	<u>[Signature]</u>	<u>1/9/12</u>
11. <u>Scott Shaw</u>	<u>Ops CI Supv</u>	<u>[Signature]</u>	<u>10/1/11</u>	<u>[Signature]</u>	<u>1/3/12</u>
12. <u>Mark Simley</u>	<u>Ops Int Supv</u>	<u>[Signature]</u>	<u>10/1/11</u>	<u>[Signature]</u>	<u>1-17-12</u>
13. <u>Chit Brumley</u>	<u>Sim Booth Operator</u>	<u>[Signature]</u>	<u>10/24/11</u>	<u>[Signature]</u>	<u>1-17-12</u>
14. <u>Keith Mestas</u>	<u>Unit Supervisor</u>	<u>[Signature]</u>	<u>10/23/11</u>	<u>[Signature]</u>	<u>12/23/11</u>
15. <u>Paul Reimers</u>	<u>Unit Supervisor</u>	<u>[Signature]</u>	<u>10-27-11</u>	<u>[Signature]</u>	<u>12-27-11</u>
NOTES: <u>R. Montgomery</u>	<u>SRO</u>	<u>[Signature]</u>	<u>1/4/12</u>	<u>[Signature]</u>	<u>[Signature]</u>

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I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 12/24/11 - 12/26/11 as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of 12/24/11 - 12/26/11. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1. <u>GLENN W. BURG</u>	<u>REACTOR OPERATOR (SRO)</u>	<u>[Signature]</u>	<u>10/27/11</u>	<u>[Signature]</u>	<u>12/27/11</u>	
2. <u>DAVID DELL</u>	<u>REACTOR OPERATOR (SRO)</u>	<u>[Signature]</u>	<u>10/27/11</u>	<u>[Signature]</u>	<u>12/27/11</u>	
3. <u>THOMAS WALL</u>	<u>SHIFT MANAGER</u>	<u>[Signature]</u>	<u>10/27/11</u>	<u>[Signature]</u>	<u>1/12/12</u>	
4. <u>GAIL BOWEN</u>	<u>EP / DEP</u>	<u>[Signature]</u>	<u>10/27/11</u>	<u>[Signature]</u>	<u>1-12-12</u>	
5. <u>JOHN EATON</u>	<u>SHIFT MANAGER</u>	<u>[Signature]</u>	<u>11/5/11</u>	<u>[Signature]</u>	<u>1-27-12</u>	
6. <u>MIKE JONES</u>	<u>OPS DIR.</u>	<u>[Signature]</u>	<u>11/5/11</u>	<u>[Signature]</u>	<u>1-1-12</u>	
7. <u>David Schlitz</u>	<u>ODS TRN</u>	<u>[Signature]</u>	<u>11/14/11</u>	<u>[Signature]</u>	<u>4-25-12</u>	
8. <u>JR Russell</u>	<u>SRO / UNIT SUPV</u>	<u>[Signature]</u>	<u>11/14/11</u>	<u>[Signature]</u>	<u>3/27/12</u>	
9. <u>DC Funk</u>	<u>SRO / UNIT SUPV</u>	<u>[Signature]</u>	<u>11/14/11</u>	<u>[Signature]</u>	<u>1/17/12</u>	
10. <u>Frank Mellon</u>	<u>SRO / SRA</u>	<u>[Signature]</u>	<u>11/14/11</u>	<u>[Signature]</u>	<u>12/27/11</u>	
11. <u>Tim Seikoy</u>	<u>SRO / O.S.</u>	<u>[Signature]</u>	<u>11/15/11</u>	<u>[Signature]</u>	<u>1/24/12</u>	
12. <u>John McLean</u>	<u>RO</u>	<u>[Signature]</u>	<u>11/15/11</u>	<u>[Signature]</u>	<u>4/2/12</u>	
13. <u>C.A. FERNANDEZ</u>	<u>INSTR</u>	<u>[Signature]</u>	<u>11/16/11</u>	<u>[Signature]</u>	<u>3/27/2012</u>	
14. <u>B. Stamm</u>	<u>OCM</u>	<u>[Signature]</u>	<u>11-2-11</u>	<u>[Signature]</u>	<u>4-2-12</u>	
15. <u>JUAN GARCIA</u>	<u>P.O.</u>	<u>[Signature]</u>	<u>11-18-11</u>	<u>[Signature]</u>	<u>1-10-12</u>	

NOTES:

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 12/05/11 - 12/16/11 as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of 12/5/11-12/16/11. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE NOTE
1.	Mark Wilson	Ops Licensed Instructor / Exam Developer	[Signature]	3/17/11	[Signature]	1/3/12
2.	Rocky Schenckels	Unit Supervisor / Validation	[Signature]	1/18/11	[Signature]	6/10/12
3.	Jim Barry	Pr. Instructor	[Signature]	12/5/11	[Signature]	1/12/12
4.	KS HESS	QA ADM	[Signature]	12/5/11	[Signature]	1/12/12
5.	Chase Wach	Ops Licensed Instructor	[Signature]	12/6/11	[Signature]	1/12/12
6.	Andre McCallan	Instructor	[Signature]	12/14/11	[Signature]	3/27/2012
7.	Jim Jones	SA Ops Instr	[Signature]	12/14/11	[Signature]	12/11/11
8.						
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NOTES:

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Facility: Turkey Point Units 3 & 4Date of Examination: 12/05/2011Examination Level: RO ☒ SRO ☐Operating Test Number: 2011-302

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
A.1.a Conduct of Operations	M, R	Perform a Dilution Calculation for a Unit Power Change from 80-100% 2.1.25 RO 3.9 SRO 4.2
A.1.b Conduct of Operations	M, R	Evaluate Overtime Requirements 2.1.5 RO 2.9 SRO 3.9
A.2 Equipment Control	N, R	Prepare an ECO for the 3A Component Cooling Water Pump 2.2.13 RO 4.1 SRO 4.3
A.3 Radiation Control	M, R	Evaluate conditions for restart of Refueling Preshuffle In the spent fuel pit 2.3.12 RO 3.2 SRO 3.7
A.4 Emergency Procedures/Plan	N/A	NOT SELECTED FOR RO EXAM

NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when all 5 are required.

* Type Codes & Criteria:
 (C)ontrol room, (S)imulator, or Class(R)oom
 (D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes)
 (N)ew or (M)odified from bank (≥ 1)
 (P)revious 2 exams (≤ 1 ; randomly selected)

2011 TURKEY POINT ADMIN JPM SUMMARY

A.1.a - Calculate the Dilution Required for Unit 3 Power Change from 80-100%: Given a set of Unit 3 plant conditions, the applicant use the Unit 3 Curve Book and 0-OP-046, CVCS – Boron Concentration Control, to calculate the dilution required for Unit 3 power change from 80-100%. MODIFIED BANK JPM - 01028022100 (used on the 2009 PTN NRC Exam). The initial conditions (core burnup, initial boron concentration, initial rod height, and initial power level) were modified. [2.1.25 - Ability to interpret reference materials, such as graphs, curves, tables, etc.]

A.1.b - Evaluate Overtime Requirements: The applicant uses 0-ADM-200, Conduct of Operations, and AD-AA-101-1004, Work Hour Controls, to determine the overtime requirements for two proposed work schedules. MODIFIED BANK JPM [2.1.5 - Ability to use procedures related to shift staffing, such as minimum crew complement, overtime limitations, etc.]

A.2 - Prepare an ECO for the 3A Component Cooling Water Pump: The applicant use 0-ADM-212, In-Plant Equipment Clearance Orders and 0-ADM-212.1, Operations In-Plant Equipment Clearance Orders, plant drawings, and other procedures to prepare the clearance. NEW JPM. [2.2.13 - Knowledge of tagging and clearance procedures.]

A.3 – Evaluate conditions for restart of Refueling Preshuffle in the spent fuel pit.

The applicant uses Attachment 2 of 3-NOP-040.3, Fuel Handling and insert shuffle in the Spent Fuel Pit, to assess plant conditions and identifies if the refueling preshuffle can be restarted. New JPM. [2.3.12 RO 3.2 SRO 3.7]

A.4 - NOT SELECTED

Facility: Turkey Point Units 3 & 4Date of Examination: 12/05/2011Examination Level: RO ☐ SRO ☒Operating Test Number: 2011-302

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
A.1.a Conduct of Operations	M, R	Perform a Dilution Calculation for a Unit Power Change from 80-100% 2.1.25 RO 3.9 SRO 4.2
A.1.b Conduct of Operations	M, R	Evaluate Overtime Requirements 2.1.5 RO 2.9 SRO 3.9
A.2 Equipment Control	M, P, R	Determine Contingency Actions 2.1.2 SRO 4.4
A.3 Radiation Control	M, R	Evaluate conditions for restart for Refueling Preshuffle in the spent fuel pit. 2.3.12 RO 3.2 SRO 3.7
A.4 Emergency Procedures/Plan	M, R	Given a set of conditions, determine the EAL and complete the Florida Nuclear Plant Emergency Notification Form F-439 within the required time 2.4.41 RO 2.9 SRO 4.6

NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when all 5 are required.

* Type Codes & Criteria:

- (C)ontrol room, (S)imulator, or Class(R)oom
- (D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes)
- (N)ew or (M)odified from bank (≥ 1)
- (P)revious 2 exams (≤ 1 ; randomly selected)

JPM SUMMARY STATEMENTS

A.1.a - Review a Dilution Calculation for a Unit 3 Power Change from 80-100%: Given a set of Unit 3 plant conditions, the applicant uses the Unit 3 Curve Book and 0-OP-046, CVCS – Boron Concentration Control to ensure the accuracy of a dilution calculation for a Unit 3 power change from 80-100%. MODIFIED BANK JPM - 01028022100 (used on the 2009 PTN NRC Exam). The initial conditions (core burnup, initial boron concentration, initial power level, and induced errors) were modified. [2.1.25 - Ability to interpret reference materials, such as graphs, curves, tables, etc.]

A.1.b - Evaluate Overtime Requirements: The applicant uses 0-ADM-200, Conduct of Operations, and AD-AA-101-1004, Work Hour Controls, to determine the overtime requirements for two proposed work schedules. MODIFIED BANK JPM [2.1.5 - Ability to use procedures related to shift staffing, such as minimum crew complement, overtime limitations, etc.]

A.2 - Determine Contingency Actions: The candidate must assess plant conditions and determine the appropriate enclosure from 0-ADM-051, Outage Risk Assessment and Control. Additionally the operator must determine the actions for loss of a charging pump in reduced inventory. [2.1.2 SRO 4.4]

A.3 A.3 – Evaluate conditions for restart of Refueling Preshuffle in the spent fuel pit.

The applicant uses Attachment 2 of 3-NOP-040.3, Fuel Handling and insert shuffle in the Spent Fuel Pit, to assess plant conditions and identifies if the refueling preshuffle can be restarted. New JPM. [2.3.12 RO 3.2 SRO 3.7]

A.4 - Classify an Event and Complete a Florida Nuclear Plant Emergency Notification Form F-439: The applicant first classifies an event using 0-EPIP-20101, Duties of Emergency Coordinator, then uses 0-EPIP- 20134, Offsite Notifications and Protective Action Recommendations, to complete a Florida Nuclear Plant Emergency Notification Form F-439. MODIFIED BANK JPM -1001013400 [2.4.41 - Knowledge of the emergency action level thresholds and classifications.]

Facility: **Turkey Point Units 3 & 4**Date of Examination: **12/05/11**Exam Level: RO ☒ SRO-I ☐ SRO-U ☐Operating Test No.: **2011-302****Control Room Systems@ (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)**

System / JPM Title	Type Code*	Safety Function
a. Recover Misaligned Control Rod 001 A2.03 RO 3.5 SRO 4.2	D, S	1
b. Recover from a Loss of Offsite Power 062 A4.07 RO 3.1 SRO 3.1	D, S	6
c. Preparation for OMS Operation 010 A4.03 RO 4.0 SRO 3.8	A, N, EN, S	3
d. Start 3A RCP in MODE 3 003 A2.02 RO 3.7 SRO 3.9	A, N, L, S	4P
e. Manually Initiate Containment Spray and Control Room Ventilation Isolation 013 A4.01 RO 4.5 SRO 4.8	A, EN, M, S	5
f. Loss of B SG Auto MFRV Control 059 A2.12 RO 3.1 SRO 3.4	D, S	4S
g. Test Source Range Nuclear Instrument 015 A4.02 RO 3.9 SRO 3.9	M, L, S	7
h. Respond to Component Cooling Water System Malfunctions 008 A2.01 RO 3.3 SRO 3.6	A, D, S	8

In-Plant Systems@ (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)

i. Locally Trip the Reactor and Main Turbine 001 A2.13 RO 4.4 SRO 4.6	D, E	1
j. Preparations for Initiating Containment Vent Alternate Air Pressurization 103 A1.01 RO 3.7 SRO 4.1	N, R	5
k. Instrument Air Dryer Operations During Loss of I.A. 078 A3.01 RO 3.1 SRO 3.2	A, N	8

@ All RO and SRO-I Control Room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the Control Room.

* Type Codes	Criteria for RO / SRO-I / SRO-U
(A)lternate path	4-6 / 4-6 / 2-3
(C)ontrol room	
(D)irect from bank	$\leq 9 / \leq 8 / \leq 4$
(E)mergency or abnormal in-plant	$\geq 1 / \geq 1 / \geq 1$
(EN)gineered safety feature	- / - / ≥ 1 (control room system)
(L)ow-Power / Shutdown	$\geq 1 / \geq 1 / \geq 1$
(N)ew or (M)odified from bank including 1(A)	$\geq 2 / \geq 2 / \geq 1$
(P)revious 2 exams	$\leq 3 / \leq 3 / \leq 2$ (randomly selected)
(R)CA	$\geq 1 / \geq 1 / \geq 1$
(S)imulator	

TURKEY POINT 2011 NRC EXAM JPM SUMMARY

- a. **Recover Misaligned Control Rod** - The applicant uses 3-ONOP-028.1, RCC Misalignment, to restore the control rods to a normal configuration. BANK JPM - 01028016301.
- b. **Recover from a Loss of Offsite Power** - The applicant uses 3-ONOP-004.1, System Restoration Following a Loss of Offsite Power, to parallel the Unit 3 Startup Transformer to the 3A 4KV Bus, being supplied by the 3A EDG. BANK JPM - 01005014303
- c. **Preparation for OMS Operation** - The applicant uses 3-NOP-041.04, Overpressure Mitigating System, to prepare for operation of the OMS. When cycling the second PZR PORV, the PORV will fail to close. The operator will then diagnose that the associated PORV block valve leaks, requiring the operator to manually initiate a Safety Injection. This is the alternate path portion of this JPM. NEW JPM.
- d. **Start 3A RCP in MODE 3** - The applicant uses 3-NOP-041.01A, 3A Reactor Coolant Pump Operations, to start 3a RCP in MODE 3. The alternate path portion of this JPM occurs after the RCP Start with high starting current. The applicant is required to secure 3A RCP. MODIFIED BANK JPM.
- e. **Manually Initiate Containment Spray and Control Room Ventilation Isolation** - The applicant uses 3-EOP-E-0, Reactor Trip or Safety Injection, Attachment 3, to manually initiate Containment Spray, isolate all Phase B penetrations, and manually align Control Room Ventilation. The alternate path portion of this JPM occurs during the failure of automatic actuation of Containment Spray, Phase B isolation, and Control Room Ventilation. Manual actuation and alignment is required. MODIFIED BANK JPM.
- f. **Loss of B SG Auto MFRV Control** - The applicant uses prompt actions in accordance with Control Room alarm response to re-establish Main Feed Regulating Valve control in manual. Level is to be stabilized to the program level of 60% without tripping the Reactor or Turbine. BANK JPM - 01074011303.
- g. **Test the Source Range Nuclear Instrumentation** - The applicant uses 3-OSP-059.1, Source Range Nuclear Instrumentation Analog Channel Operational Test, to test SR Channel N-32. MODIFIED BANK JPM - 01059017200 SEQ050A.
- h. **Respond to Component Cooling Water System Malfunctions** - The applicant uses 3-ONOP-30, Component Cooling Water Malfunction, to respond to a bearing failure of a running CCW pump. The alternate path portion of this JPM occurs when CCW pumps cannot be started. The Reactor must be tripped. Letdown and Excess Letdown must be isolated. BANK JPM.
- i. **Locally Trip the Reactor and Main Turbine** - The applicant takes actions to locally trip the Reactor IAW 4-EOP-FR-S.1, Response to Nuclear Power Generation/ATWS. BANK JPM.
- j. **Preparations for Initiating Containment Vent Alternate Air Pressurization** - The applicant uses 3-NOP-094, Containment Post Accident Monitoring Systems, to lineup air for subsequent pressurization of Containment. NEW JPM.
- k. **Instrument Air Dryer Operations During Loss of I.A.** - The applicant uses 3-ONOP-013, Loss of Instrument Air, to locally operate the 3A Instrument Air Dryer. The alternate path portions of this JPM consist of 1) identifying excessive purging, requiring a transition to the RNO column; and 2) failure of a valve to operate while in the RNO column, requiring the operator to take a contingency action. NEW JPM

Facility: **Turkey Point Units 3 & 4**Date of Examination: **12/05/11**Exam Level: RO ☐ SRO-I ☐ SRO-U ☒Operating Test No.: **2011-302****Control Room Systems® (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)**

System / JPM Title	Type Code*	Safety Function
a. N/A	N/A	N/A
b. N/A	N/A	N/A
c. Preparation for OMS Operation 010 A4.03 RO 4.0 SRO 3.8	A, N, EN, S	3
d. Start 3A RCP in MODE 3 003 A2.02 RO 3.7 SRO 3.9	A, N, L, S	4P
e. N/A	N/A	N/A
f. N/A	N/A	N/A
g. N/A	N/A	N/A
h. Respond to Component Cooling Water System Malfunctions 008 A2.01 RO 3.3 SRO 3.6	A, D, S	8

In-Plant Systems@ (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)

i. Locally Trip the Reactor and Main Turbine 001 A2.13 RO 4.4 SRO 4.6	D, E	1
j. Preparations for Initiating Containment Vent Alternate Air Pressurization 103 A1.01 RO 3.7 SRO 4.1	N, R	5
k. N/A	N/A	N/A

@ All RO and SRO-I Control Room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the Control Room.

* Type Codes	Criteria for RO / SRO-I / SRO-U
(A)lternate path	4-6 / 4-6 / 2-3
(C)ontrol room	
(D)irect from bank	$\leq 9 / \leq 8 / \leq 4$
(E)mergency or abnormal in-plant	$\geq 1 / \geq 1 / \geq 1$
(EN)gineered safety feature	- / - / ≥ 1 (control room system)
(L)ow-Power / Shutdown	$\geq 1 / \geq 1 / \geq 1$
(N)ew or (M)odified from bank including 1(A)	$\geq 2 / \geq 2 / \geq 1$
(P)revious 2 exams	$\leq 3 / \leq 3 / \leq 2$ (randomly selected)
(R)CA	$\geq 1 / \geq 1 / \geq 1$
(S)imulator	

TURKEY POINT 2011 NRC EXAM JPM SUMMARY

- c. **Preparation for OMS Operation** - The applicant uses 3-NOP-041.04, Overpressure Mitigating System, to prepare for operation of the OMS. When cycling the second PZR PORV, the PORV will fail to close. The operator will then diagnose that the associated PORV block valve leaks, requiring the operator to manually initiate a Safety Injection. This is the alternate path portion of this JPM. NEW JPM.
- d. **Start 3A RCP in MODE 3** – The applicant uses 3-NOP-041.01A, 3A Reactor Coolant Pump Operations, to start 3a RCP in MODE 3. The alternate path portion of this JPM occurs after the RCP Start with high starting current. The applicant is required to secure 3A RCP. MODIFIED BANK JPM.
- h. **Respond to Component Cooling Water System Malfunctions** - The applicant uses 3-ONOP-30, Component Cooling Water Malfunction, to respond to a bearing failure of a running CCW pump. The alternate path portion of this JPM occurs when CCW pumps cannot be started. The Reactor must be tripped. Letdown and Excess Letdown must be isolated. BANK JPM.
- i. **Locally Trip the Reactor and Main Turbine** – The applicant takes actions to locally trip the Reactor IAW 4-EOP-FR-S.1, Response to Nuclear Power Generation/ATWS. BANK JPM.
- j. **Instrument Air Dryer Operations During Loss of I.A.** - The applicant uses 3-ONOP-013, Loss of Instrument Air, to locally operate the 3A Instrument Air Dryer. The alternate path portions of this JPM consist of 1) identifying excessive purging, requiring a transition to the RNO column; and 2) failure of a valve to operate while in the RNO column, requiring the operator to take a contingency action. NEW JPM

Facility:		Date of Examination:		Operating Test Number:		
1. General Criteria				Initials		
				a	b*	c#
a.	The operating test conforms with the previously approved outline; changes are consistent with sampling requirements (e.g., 10 CFR 55.45, operational importance, safety function distribution).			<i>NA</i>	<i>CB</i>	<i>62</i>
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.			<i>NA</i>	<i>CB</i>	<i>62</i>
c.	The operating test shall not duplicate items from the applicants' audit test(s). (see Section D.1.a.)			<i>NA</i>	<i>CB</i>	<i>62</i>
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.			<i>NA</i>	<i>CB</i>	<i>62</i>
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.			<i>NA</i>	<i>CB</i>	<i>62</i>
2. Walk-Through Criteria				--	--	--
a.	Each JPM includes the following, as applicable: <ul style="list-style-type: none"> initial conditions initiating cues references and tools, including associated procedures reasonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time-critical by the facility licensee operationally important specific performance criteria that include: <ul style="list-style-type: none"> detailed expected actions with exact criteria and nomenclature system response and other examiner cues statements describing important observations to be made by the applicant criteria for successful completion of the task identification of critical steps and their associated performance standards restrictions on the sequence of steps, if applicable 			<i>NA</i>	<i>CB</i>	<i>62</i>
b.	Ensure that any changes from the previously approved systems and administrative walk-through outlines (Forms ES-301-1 and 2) have not caused the test to deviate from any of the acceptance criteria (e.g., item distribution, bank use, repetition from the last 2 NRC examinations) specified on those forms and Form ES-201-2.			<i>NA</i>	<i>CB</i>	<i>62</i>
3. Simulator Criteria				--	--	--
The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4 and a copy is attached.				<i>NA</i>	<i>CB</i>	<i>62</i>
Printed Name / Signature				Date		
a.	Author	<i>Robert Heidecker / R. Heidecker</i>		<i>11/20/11</i>		
b.	Facility Reviewer(**)	<i>SEAN BLOOM / SEB</i>		<i>11/20/11</i>		
c.	NRC Chief Examiner (#)	<i>Edwin Lee, Jr. / Edwin Lee, Jr.</i>		<i>11/29/2011</i>		
d.	NRC Supervisor	<i>Michael A. Jung / Michael A. Jung</i>		<i>12-1-11</i>		
NOTE: * The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.						

Facility:		Date of Exam:		Scenario Numbers: / /		Operating Test No.:		
QUALITATIVE ATTRIBUTES						Initials		
						a	b*	c#
1.	The initial conditions are realistic, in that some equipment and/or instrumentation may be out of service, but it does not cue the operators into expected events.	NA	CB	62				
2.	The scenarios consist mostly of related events.	NA	CB	62				
3.	Each event description consists of <ul style="list-style-type: none"> the point in the scenario when it is to be initiated the malfunction(s) that are entered to initiate the event the symptoms/cues that will be visible to the crew the expected operator actions (by shift position) the event termination point (if applicable) 	NA	CB	62				
4.	No more than one non-mechanistic failure (e.g., pipe break) is incorporated into the scenario without a credible preceding incident such as a seismic event.	NA	CB	62				
5.	The events are valid with regard to physics and thermodynamics.	NA	CB	62				
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	NA	CB	62				
7.	If time compression techniques are used, the scenario summary clearly so indicates. Operators have sufficient time to carry out expected activities without undue time constraints. Cues are given.	NA	CB	62				
8.	The simulator modeling is not altered.	NA	CB	62				
9.	The scenarios have been validated. Pursuant to 10 CFR 55.46(d), any open simulator performance deficiencies or deviations from the referenced plant have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.	NA	CB	62				
10.	Every operator will be evaluated using at least one new or significantly modified scenario. All other scenarios have been altered in accordance with Section D.5 of ES-301.	NA	CB	62				
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	NA	CB	62				
12.	Each applicant will be significantly involved in the minimum number of transients and events specified on Form ES-301-5 (submit the form with the simulator scenarios).	NA	CB	62				
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	NA	CB	62				
Target Quantitative Attributes (Per Scenario; See Section D.5.d)		Actual Attributes		--	--	--		
1.	Total malfunctions (5-8)	5 1 5 1 5		NA	CB	62		
2.	Malfunctions after EOP entry (1-2)	3 1 2 1 5		NA	CB	62		
3.	Abnormal events (2-4)	4 1 4 1 4		NA	CB	62		
4.	Major transients (1-2)	1 1 1 1 1		NA	CB	62		
5.	EOPs entered/requiring substantive actions (1-2)	1 1 1 2		NA	CB	62		
6.	EOP contingencies requiring substantive actions (0-2)	0 1 1 1		NA	CB	62		
7.	Critical tasks (2-3)	3 1 2 1 3		NA	CB	62		

Facility: Turkey Point			Date of Exam: 12/05/11			Operating Test No.: 2011-302											
A P P L I C A N T	E V E N T T Y P E	Scenarios 2 and 3												T O T A L	M I N I M U M(*)		
		Scenario 1			Scenario 2			Scenario 3			Scenario 4						
		C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N						
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P				
RO <input type="checkbox"/>	RX				7			2						2	1	1	0
SRO-I <input type="checkbox"/>	NOR				1									1	1	1	1
SRO-U <input type="checkbox"/>	I/C				2,3,4, 5,6			1,3, 4,5,6						10	4	4	2
<input checked="" type="checkbox"/>	MAJ				8			7						2	2	2	1
	TS				5,6			1,3						4	0	2	2
RO-1 <input checked="" type="checkbox"/>	RX							2						1	1	1	0
SRO-I <input type="checkbox"/>	NOR						7							1	1	1	1
SRO-U <input type="checkbox"/>	I/C						3,6		3,6					4	4	4	2
<input type="checkbox"/>	MAJ						8		7					2	2	2	1
	TS													0	0	2	2
RO-2 <input checked="" type="checkbox"/>	RX				7									1	1	1	0
SRO-I <input type="checkbox"/>	NOR				1									1	1	1	1
SRO-U <input type="checkbox"/>	I/C				2,4,5				1,4,5					6	4	4	2
<input type="checkbox"/>	MAJ				8				7					2	2	2	1
	TS													0	0	2	2
RO <input type="checkbox"/>	RX														1	1	0
SRO-I <input type="checkbox"/>	NOR														1	1	1
SRO-U <input type="checkbox"/>	I/C														4	4	2
<input type="checkbox"/>	MAJ														2	2	1
	TS														0	2	2

Instructions:

1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must serve in both the SRO and the ATC positions, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position. If an Instant SRO *additionally* serves in the BOP position, one I/C malfunction can be credited toward the two I/C malfunctions required for the ATC position.
2. Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.5.d) but must be significant per Section C.2.a of Appendix D. (*) Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a 1-for-1 basis.
3. Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirements specified for the applicant's license level in the right-hand columns.

Facility: Turkey Point			Date of Exam: 12/05/11			Operating Test No.: 2011-302											
A P P L I C A N T	E V E N T T Y P E	Scenario 1												T O T A L	M I N I M U M(*)		
		Scenario 1			Scenario 2			Scenario 3			Scenario 4						
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P				
RO <input type="checkbox"/>	RX	3												1	1	1	0
SRO-I <input type="checkbox"/>	NOR													0	1	1	1
SRO-U <input type="checkbox"/>	I/C	1,2,4I, 4C,5												5	4	4	2
<input checked="" type="checkbox"/>	MAJ	6												1	2	2	1
	TS	1,4C												2	0	2	2
RO-1 <input checked="" type="checkbox"/>	RX		3											1	1	1	0
SRO-I <input type="checkbox"/>	NOR													0	1	1	1
SRO-U <input type="checkbox"/>	I/C		1,4I, 4C											3	4	4	2
	MAJ		6											1	2	2	1
	TS													0	0	2	2
RO-2 <input checked="" type="checkbox"/>	RX													0	1	1	0
SRO-I <input type="checkbox"/>	NOR			3										1	1	1	1
SRO-U <input type="checkbox"/>	I/C			2,5										2	4	4	2
	MAJ			6										1	2	2	1
	TS													0	0	2	2
RO <input type="checkbox"/>	RX														1	1	0
SRO-I <input type="checkbox"/>	NOR														1	1	1
SRO-U <input type="checkbox"/>	I/C														4	4	2
	MAJ														2	2	1
	TS														0	2	2

Instructions:

- Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must serve in both the SRO and the ATC positions, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position. If an Instant SRO *additionally* serves in the BOP position, one I/C malfunction can be credited toward the two I/C malfunctions required for the ATC position.
- Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.5.d) but must be significant per Section C.2.a of Appendix D. (*) Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a 1-for-1 basis.
- Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirements specified for the applicant's license level in the right-hand columns.

Facility: Turkey Point		Date of Examination: 12/05/11		Operating Test No.: 2011-302									
Competencies	APPLICANTS												
	RO <input type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input checked="" type="checkbox"/>			RO-ATC <input checked="" type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>			RO-BOP <input checked="" type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>			RO <input type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>			
	SCENARIO			SCENARIO			SCENARIO			SCENARIO			
	1	2	3	1	2	3	1	2	3	1	2	3	4
Interpret/Diagnose Events and Conditions	1-2 4-8	1-6 8-11	1 3-9	1,4 6-8	2,4,5 8-11	3,6	2,3 5-8	3,6, 7-11	1,4,5 7-9				
Comply With and Use Procedures (1)	1-8	1-11	1-9	1-8	1-11	1-9	1-8	1-11	1-9				
Operate Control Boards (2)	N/A	N/A	N/A	1,3,4 6-8	1,2, 4,5, 7-11	2,3, 6-9	2,3 5-8	3,6, 7-11	1,4,5 7-9				
Communicate and Interact	1-8	1-11	1-9	1-8	1-11	1-9	1-8	1-11	1-9				
Demonstrate Supervisory Ability (3)	1-8	1-11	1-9	N/A	N/A	N/A	N/A	N/A	N/A				
Comply With and Use Tech. Specs. (3)	1,4C	5,6	1,3	N/A	N/A	N/A	N/A	N/A	N/A				
Notes: (1) Includes Technical Specification compliance for an RO. (2) Optional for an SRO-U. (3) Only applicable to SROs.													

Instructions:

Check the applicants' license type and enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

Facility: Turkey Point		Date of Exam: 12/2011															
Tier	Group	RO K/A Category Points											SRO-Only Points				
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	Total	A2	G*	Total	
1. Emergency & Plant Evaluations	1	3	3	3				3	3			3	18	3	3	6	
	2	1	1	2				2	1			2	9	2	2	4	
	Tier Totals	4	4	5				5	4			5	27	5	5	10	
2. Plant Systems	1	3	2	3	3	2	3	3	2	3	2	2	28	3	2	5	
	2	0	0	1	1	1	1	1	1	1	2	1	10	0	2	3	
	Tier Totals	3	2	4	4	3	4	4	3	4	4	3	38	5	3	8	
3. Generic Knowledge & Abilities				1		2		3		4		10	1	2	3	4	7
				3		2		2		3			1	2	2	2	

Note 1. Ensure that at least two topics from every applicable K/A category are sampled within each tier of the RO and SRO-only outlines (i.e., except for one category in Tier 3 of the SRO-only outline, the Tier Totals in each K/A category shall not be less than two).

2. 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 RO exam must total 75 points and the SRO-only exam must total 25 points.

3. Systems/evolutions within each group are identified on the associated outline; systems or evolutions that do not apply at the facility should be deleted and justified; operationally important, site-specific systems that are not included on the outline should be added. Refer to section D.1.b of ES-401, for guidance regarding elimination of inappropriate K/A statements.

4. Select topics from as many systems and evolutions as possible; sample every system or evolution in the group before selecting a second topic for any system or evolution.

5. Absent a plant specific priority, only those KAs having an importance rating (IR) of 2.5 or higher shall be selected. Use the RO and SRO ratings for the RO and SRO-only portions, respectively.

6. Select SRO topics for Tiers 1 and 2 from the shaded systems and K/A categories.

7.* The generic (G) 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. Refer to Section D.1.b of ES-401 for the applicable K/A's

8. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings (IR) for the applicable license level, and the point totals (#) for each system and category. Enter the group and tier totals for each category in the table above. If fuel handling equipment is sampled in other than Category A2 or G* on the SRO-only exam, enter it on the left side of Column A2 for Tier 2, Group 2 (Note #1 does not apply). Use duplicate pages for RO and SRO-only exams.

9. For Tier 3, select topics from Section 2 of the K/A Catalog, and enter the K/A numbers, descriptions, IRs, and point totals (#) on Form ES-401-3. Limit SRO selections to K/As that are linked to 10CFR55.43

Turkey Point 2011
PWR Examination Outline
Emergency and Abnormal Plant Evolutions - Tier 1 Group 1

EAPE#/Name Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Q#
008 / Pressurizer Vapor Space Accident / 3					X		AA2.30 - Ability to determine and interpret the following as they apply to the Pressurizer Vapor Space Accident: Inadequate core cooling	4.7	76
011 / Large Break LOCA / 3						X	2.4.9 - Emergency Procedures / Plan: Knowledge of low power / shutdown implications in accident (e.g., loss of coolant accident or loss of residual heat removal) mitigation strategies.	3.8	77
025 / Loss of Residual Heat Removal System / 4						X	2.4.21 - Emergency Procedures / Plan: Knowledge of the parameters and logic used to assess the status of safety functions, such as reactivity control, core cooling and heat removal, reactor coolant system integrity, containment conditions, radioactivity release control, etc.	4.6	78
056 / Loss of Off-site Power / 6					X		AA2.53 - Ability to determine and interpret the following as they apply to the Loss of Offsite Power: Status of emergency bus under voltage relays	3.2	79
065 / Loss of Instrument Air / 8						X	2.2.4 - Equipment Control: (multi-unit license) Ability to explain the variations in control board layouts, systems, instrumentation and procedural actions between units at a facility.	3.6	80

Turkey Point 2011
PWR Examination Outline
Emergency and Abnormal Plant Evolutions - Tier 1 Group 1

EAPE#/Name Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Q#
E04 / LOCA Outside Containment / 3					X		EA2.1 - Ability to determine and interpret the following as they apply to the (LOCA Outside Containment) Facility conditions and selection of appropriate procedures during abnormal and emergency operations.	4.3	81
007 / Reactor Trip - Stabilization - Recovery / 1	X						EK1.06 - Knowledge of the operational implications of the following concepts as they apply to the reactor trip: Relationship of emergency feedwater flow to S/G and decay heat removal following reactor trip	3.7	1
008 / Pressurizer Vapor Space Accident / 3				X			AA1.03 - Ability to operate and / or monitor the following as they apply to the Pressurizer Vapor Space Accident: Turbine bypass in manual control to maintain header pressure	2.8	2
009 / Small Break LOCA / 3			X				EK3.20 - Knowledge of the reasons for the following responses as they apply to the small break LOCA: Tech-Spec leakage limits	3.5	3
011 / Large Break LOCA / 3					X		EA2.10 - Ability to determine or interpret the following as they apply to a Large Break LOCA: Verification of adequate core cooling	4.5	4
015 / 17 / Reactor Coolant Pump Malfunctions / 4			X				AK3.05 - Knowledge of the reasons for the following responses as they apply to the Reactor Coolant Pump Malfunctions (Loss of RC Flow) : Shift of T-ave. sensors to the loop with the highest flow	2.8	5

Turkey Point 2011
PWR Examination Outline
Emergency and Abnormal Plant Evolutions - Tier 1 Group 1

EAPE#/Name Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Q#
022 / Loss of Reactor Coolant Makeup / 2	X						AK1.01 - Knowledge of the operational implications of the following concepts as they apply to Loss of Reactor Coolant Makeup: Consequences of thermal shock to RCP seals	2.8	6
025 / Loss of Residual Heat Removal System / 4				X			AA1.02 - Ability to operate and / or monitor the following as they apply to the Loss of Residual Heat Removal System: RCS inventory	3.8	7
027 / Pressurizer Pressure Control System Malfunction / 3		X					AK2.03 - Knowledge of the interrelations between the Pressurizer Pressure Control Malfunctions and the following: Controllers and positioners	2.6	8
029 / Anticipated Transient Without Scram (ATWS) / 1		X					EK2.06 - Knowledge of the interrelations between the following and ATWS: Breakers, relays, and disconnects	2.9	9
038 / Steam Generator Tube Rupture / 3	X						EK1.02 - Knowledge of the operational implications of the following concepts as they apply to the SGTR: Leak rate vs. pressure drop	3.2	10
E12 / Steam Line Rupture - Excessive Heat Transfer / 4						X	2.1.30 - Conduct of Operations: Ability to locate and operate components, including local controls.	4.4	11
054 / Loss of Main Feedwater / 4			X				AK3.02 - Knowledge of the reasons for the following responses as they apply to the Loss of Main Feedwater (MFW): Matching of feedwater and steam flows	3.4	12
055 / Station Blackout / 6					X		EA2.03 - Ability to determine or interpret the following as they apply to a Station Blackout: Actions necessary to restore power	3.9	13

Turkey Point 2011
PWR Examination Outline
Emergency and Abnormal Plant Evolutions - Tier 1 Group 1

EAPE#/Name Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Q#
056 / Loss of Off-site Power / 6					X		AA2.54 - Ability to determine and interpret the following as they apply to the Loss of Offsite Power: Breaker position (remote and local)	2.9	14
057 / Loss of Vital AC Electrical Instrument Bus / 6						X	2.4.50 - Emergency Procedures / Plan: Ability to verify system alarm setpoints and operate controls identified in the alarm response manual.	4.2	15
062 / Loss of Nuclear Service Water / 4				X			AA1.03 - Ability to operate and / or monitor the following as they apply to the Loss of Nuclear Service Water: SWS as a backup to the CCWS	3.6	16
065 / Loss of Instrument Air / 8						X	2.4.21 - Emergency Procedures / Plan: Knowledge of the parameters and logic used to assess the status of safety functions, such as reactivity control, core cooling and heat removal, reactor coolant system integrity, containment conditions, radioactivity release control, etc.	4.0	17
E05 / Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4		X					EK2.1 - Knowledge of the interrelations between the (Loss of Secondary Heat Sink) and the following: Components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.	3.7	18
K/A Category Totals	3	3	3	3	3/3	3/3	Group Point Total:	18/6	

Turkey Point 2011
PWR Examination Outline
Emergency and Abnormal Plant Evolutions - Tier 1 Group 2

EAP# / Name Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Q#
001 / Continuous Rod Withdrawal / 1					X		AA2.05 - Ability to determine and interpret the following as they apply to the Continuous Rod Withdrawal: Uncontrolled rod withdrawal, from available indications	4.6	82
069 / Loss of Containment Integrity / 5						X	2.4.41 - Emergency Procedures / Plan: Knowledge of the emergency action level thresholds and classifications.	4.6	83
076 / High Reactor Coolant Activity / 9						X	2.4.31 - Emergency Procedures / Plan: Knowledge of annunciator alarms, indications, or response procedures.	4.1	84
E03 / LOCA Cooldown and Depressurization / 4					X		EA2.2 - Ability to determine and interpret the following as they apply to the (LOCA Cooldown and Depressurization) Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments.	4.1	85
003 / Dropped Control Rod / 1	X						AK1.02 - Knowledge of the operational implications of the following concepts as they apply to Dropped Control Rod: Effects of turbine-reactor power mismatch on rod control	3.1	19
005 / Inoperable/Stuck Control Rod / 1					X		AA2.03 - Ability to determine and interpret the following as they apply to the Inoperable / Stuck Control Rod: Required actions if more than one rod is stuck or inoperable	3.5	20
024 / Emergency Boration / 1						X	2.2.42 - Equipment Control: Ability to recognize system parameters that are entry-level conditions for Technical Specifications.	3.9	21

Turkey Point 2011
PWR Examination Outline
Emergency and Abnormal Plant Evolutions - Tier 1 Group 2

EAPE#/Name Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Q#
032 / Loss of Source Range Nuclear Instrumentation / 7			X				AK3.01 - Knowledge of the reasons for the following responses as they apply to the Loss of Source Range Nuclear Instrumentation: Startup termination on source-range loss	3.2	22
033 / Loss of Intermediate Range Nuclear Instrumentation / 7				X			AA1.01 - Ability to operate and / or monitor the following as they apply to the Loss of Intermediate Range Nuclear Instrumentation: Power-available indicators in cabinets or equipment drawers	2.9	23
061 / Area Radiation Monitoring (ARM) System Alarms / 7		X					AK2.01 - Knowledge of the interrelations between the Area Radiation Monitoring (ARM) System Alarms and the following: Detectors at each ARM system location	2.5	24
067 / Plant Fire On-site / 8						X	2.1.30 - Conduct of Operations: Ability to locate and operate components, including local controls.	4.4	25
E13 / Steam Generator Overpressure / 4				X			EA1.2 - Ability to operate and / or monitor the following as they apply to the (Steam Generator Overpressure) Operating behavior characteristics of the facility.	3.0	26
E16 / High Containment Radiation / 9			X				EK3.2 - Knowledge of the reasons for the following responses as they apply to the (High Containment Radiation) Normal, abnormal and emergency operating procedures associated with (High Containment Radiation).	2.9	27
K/A Category Totals	1	1	2	2	1/2	2/2	Group Point Total:	9/4	

Turkey Point 2011
PWR Examination Outline
Plant Systems - Tier 2 Group 1

System #/Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Q#
003 Reactor Coolant Pump								X				A2.03 - Ability to (a) predict the impacts of the following malfunctions or operations on the RCPS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Problems associated with RCP motors, including faulty motors and current, and winding and bearing temperature problems	3.1	86
005 Residual Heat Removal										X		2.2.4 - Equipment Control: (multi-unit license) Ability to explain the variations in control board layouts, systems, instrumentation and procedural actions between units at a facility.	3.6	87
062 AC Electrical Distribution										X		2.2.22 - Equipment Control: Knowledge of limiting conditions for operations and safety limits.	4.7	88
073 Process Radiation Monitoring								X				A2.02 - Ability to (a) predict the impacts of the following malfunctions or operations on the PRM system; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Detector failure	3.2	89

Turkey Point 2011
PWR Examination Outline
Plant Systems - Tier 2 Group 1

System #/Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Q#
076 Service Water								X				A2.01 - Ability to (a) predict the impacts of the following malfunctions or operations on the SWS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of SWS	3.7	90
003 Reactor Coolant Pump									X			A3.01 - Ability to monitor automatic operation of the RCPS, including: Seal injection flow	3.3	28
004 Chemical and Volume Control							X					A1.07 - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the CVCS controls including: Maximum specified letdown flow	2.7	29
005 Residual Heat Removal						X						K6.03 - Knowledge of the effect of a loss or malfunction on the following will have on the RHRS: RHR heat exchanger	2.5	30
006 Emergency Core Cooling			X									K3.02 - Knowledge of the effect that a loss or malfunction of the ECCS will have on the following Fuel	4.3	31
007 Pressurizer Relief/Quench Tank			X									K3.01 - Knowledge of the effect that a loss or malfunction of the PRTS will have on the following: Containment	3.3	32

Turkey Point 2011
PWR Examination Outline
Plant Systems - Tier 2 Group 1

System #/Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Q#
008 Component Cooling Water				X								K4.02 - Knowledge of CCWS design feature(s) and/or interlock(s) which provide for the following: Operation of the surge tank, including the associated valves and controls	2.9	33
010 Pressurizer Pressure Control						X						K6.01 - Knowledge of the effect of a loss or malfunction of the following will have on the PZR PCS: Pressure detection systems	2.7	34
012 Reactor Protection				X								K4.02 - Knowledge of RPS design feature(s) and/or interlock(s) which provide for the following: Automatic reactor trip when RPS setpoints are exceeded for each RPS function; basis for each	3.9	35
013 Engineered Safety Features Actuation									X			A3.01 - Ability to monitor automatic operation of the ESFAS including: Input channels and logic	3.7	36
022 Containment Cooling	X											K1.01 - Knowledge of the physical connections and/or cause-effect relationships between the CCS and the following systems: SWS/cooling system	3.5	37
026 Containment Spray							X					A1.02 - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the CSS controls including: Containment temperature	3.6	38

Turkey Point 2011
PWR Examination Outline
Plant Systems - Tier 2 Group 1

System #/Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Q#
039 Main and Reheat Steam				X								K4.05 - Knowledge of MRSS design feature(s) and/or interlock(s) which provide for the following: Automatic isolation of steam line	3.7	39
059 Main Feedwater										X		A4.11 - Ability to manually operate and monitor in the control room: Recovery from automatic feedwater isolation	3.1	40
061 Auxillary/Emergency Feedwater					X							K5.01 - Knowledge of the operational implications of the following concepts as they apply to the AFW: Relationship between AFW flow and RCS heat transfer	3.6	41
062 AC Electrical Distribution		X										K2.01 - Knowledge of bus power supplies to the following: Major system loads	3.3	42
063 DC Electrical Distribution	X											K1.03 - Knowledge of the physical connections and/or cause-effect relationships between the dc electrical system and the following systems: Battery charger and battery	2.9	43

Turkey Point 2011
PWR Examination Outline
Plant Systems - Tier 2 Group 1

System #/Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Q#
064 Emergency Diesel Generator								X				A2.07 - Ability to (a) predict the impacts of the following malfunctions or operations on the ED/G system; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Consequences of operating under/over-excited	2.5	44
073 Process Radiation Monitoring							X					A1.01 - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the PRM system controls including: Radiation levels	3.2	45
076 Service Water											X	2.2.12 - Equipment Control: Knowledge of surveillance procedures.	3.7	46
078 Instrument Air										X		A4.01 - Ability to manually operate and/or monitor in the control room: Pressure gauges	3.1	47
103 Containment	X											K1.02 - Knowledge of the physical connections and/or cause-effect relationships between the containment system and the following systems: Containment isolation/containment integrity	3.9	48

Turkey Point 2011
PWR Examination Outline
Plant Systems - Tier 2 Group 1

System #/Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Q#
004 Chemical and Volume Control								X				A2.23 - Ability to (a) predict the impacts of the following malfunctions or operations on the CVCS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: High filter D/P	2.6	49
010 Pressurizer Pressure Control						X						K6.03 - Knowledge of the effect of a loss or malfunction of the following will have on the PZR PCS: PZR sprays and heaters	3.2	50
012 Reactor Protection					X							K5.01 - Knowledge of the operational implications of the following concepts as they apply to the RPS: DNB	3.3	51
013 Engineered Safety Features Actuation		X										K2.01 - Knowledge of bus power supplies to the following: ESFAS/safeguards equipment control	3.6	52
026 Containment Spray									X			A3.02 - Ability to monitor automatic operation of the CSS, including: Verification that cooling water is supplied to the containment spray heat exchanger	3.9	53
062 AC Electrical Distribution											X	2.2.37 - Equipment Control: Ability to determine operability and / or availability of safety related equipment.	3.6	54

Turkey Point 2011
PWR Examination Outline
Plant Systems - Tier 2 Group 1

System #/Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Q#
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	55
K/A Category Totals	3	2	3	3	2	3	3	2/3	3	2	2/2	Group Point Total:	28/5	

Turkey Point 2011
PWR Examination Outline
Plant Systems - Tier 2 Group 2

System #/Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Q#
028 Hydrogen Recombiner and Purge Control								X				A2.02 - Ability to (a) predict the impacts of the following malfunctions or operations on the HRPS; and (b) based on those predictions, use Procedures to correct, control, or mitigate the consequences of those malfunctions or operations: LOCA condition and related concern over hydrogen	3.9	91
068 Liquid Radwaste								X				A2.03 - Ability to (a) predict the impacts of the following malfunctions or operations on the Liquid Radwaste System ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Insufficient sampling frequency of the boric acid in the evaporator bottoms	2.6	92
071 Waste Gas Disposal											X	2.4.3 - Emergency Procedures / Plan: Ability to identify post-accident instrumentation.	3.9	93
002 Reactor Coolant					X							K5.11 - Knowledge of the operational implications of the following concepts as they apply to the RCS: Relationship between effects of the primary coolant system and the secondary coolant system	4.0	56

Turkey Point 2011
PWR Examination Outline
Plant Systems - Tier 2 Group 2

System #/Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Q#
014 Rod Position Indication										X		A4.01 - Ability to manually operate and/or monitor in the control room: Rod selection control	3.3	57
017 In-core Temperature Monitor				X								K4.01 - Knowledge of ITM system design feature(s) and/or interlock(s) which provide for the following: Input to subcooling monitors	3.4	58
029 Containment Purge			X									K3.02 - Knowledge of the effect that a loss or malfunction of the Containment Purge System will have on the following: Containment entry	2.9	59
033 Spent Fuel Pool Cooling									X			A3.01 - Ability to monitor automatic operation of the Spent Fuel Pool Cooling System including: Temperature control valves	2.5	60
035 Steam Generator						X						K6.01 - Knowledge of the effect of a loss or malfunction on the following will have on the S/GS: MSIVs	3.2	61
041 Steam Dump/Turbine Bypass Control										X		A4.04 - Ability to manually operate and/or monitor in the control room: Pressure mode	2.7	62

Turkey Point 2011
PWR Examination Outline
Plant Systems - Tier 2 Group 2

System #/Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Q#
045 Main Turbine Generator							X					A1.05 - 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 primary plant parameters (temperature and pressure) following T/G trip	3.8	63
055 Condenser Air Removal											X	2.2.3 - Equipment Control: (multi-unit license) Knowledge of the design, procedural, and operational differences between units.	3.8	64
068 Liquid Radwaste								X				A2.02 - Ability to (a) predict the impacts of the following malfunctions or operations on the Liquid Radwaste System ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Lack of tank recirculation prior to release	2.7	65
K/A Category Totals	0	0	1	1	1	1	1	1/2	1	2	1/1	Group Point Total:	10/3	

Facility: Turkey Point		Date: 12/2011				
Category	KA #	Topic	RO		SRO-Only	
			IR	Q#	IR	Q#
1. Conduct of Operations	2.1.15	Knowledge of administrative requirements for temporary management directives, such as standing orders, night orders, Operations memos, etc.	2.7	66		
	2.1.27	Knowledge of system purpose and / or function.	3.9	67		
	2.1.28	Knowledge of the purpose and function of major system components and controls.	4.1	68		
	2.1.36	Knowledge of procedures and limitations involved in core alterations.			4.1	94
	Subtotal			3		1
2. Equipment Control	2.2.22	Knowledge of limiting conditions for operations and safety limits.	4.0	69		
	2.2.43	Knowledge of the process used to track inoperable alarms.	3.0	70		
	2.2.35	Ability to determine Technical Specification Mode of Operation.			4.5	95
	2.2.7	Knowledge of the process for conducting special or infrequent tests.			3.6	96
	Subtotal			2		2

3. Radiation Control	2.3.11	Ability to control radiation releases.	3.8	71		
	2.3.12	Knowledge of Radiological Safety Principles pertaining to licensed operator duties, such as containment entry requirements, fuel handling responsibilities, access to locked high-radiation areas, aligning filters, etc.	3.2	72		
	2.3.5	Ability to use radiation monitoring systems, such as fixed radiation monitors and alarms, portable survey instruments, personnel monitoring equipment, etc.			2.9	97
	2.3.4	Knowledge of radiation exposure limits under normal or emergency conditions.			3.7	98
	Subtotal				2	
4. Emergency Procedures / Plan	2.4.22	Knowledge of the bases for prioritizing safety functions during abnormal/emergency operations.	3.6	73		
	2.4.3	Ability to identify post-accident instrumentation.	3.7	74		
	2.4.9	Knowledge of low power / shutdown implications in accident (e.g., loss of coolant accident or loss of residual heat removal) mitigation strategies.	3.8	75		
	2.4.29	Knowledge of the emergency plan.			4.4	99
	2.4.40	Knowledge of the SRO's responsibilities in emergency plan implementation.			4.5	100
	Subtotal				3	
Tier 3 Point Total:				10		7

Tier / Group	Randomly Selected K/A	Reason for Rejection
RO 1/1	APE 015/017 AK3.05	<p>The knowledge of the reasons for the following responses as they apply to the Reactor Coolant Pump Malfunctions (Loss of RC Flow): Shift of T-ave. sensors to the loop with the highest flow is not a Westinghouse design function of the T-ave. sensors. This design is for plants with bypass manifolds.</p> <p>Chief Examiner randomly re-selected APE 015/017 AK3.07 on 05/02/11.</p>
RO 1/1	009 EK3.20	<p>Knowledge of the reasons for the following responses as they apply to the small break LOCA: Tech-Spec leakage limits. Because a small break LOCA is substantially larger than the allowed leakage by Technical Specifications it is difficult to construct an RO knowledge level question.</p> <p>Chief Examiner randomly re-selected 009 EK3.21 on 9/29/11.</p>
RO 2/2	033 A3.01	<p>The ability to monitor automatic operation of the Spent Fuel Pool Cooling System including: temperature control valves does not apply to Turkey Point. There is no equipment at the plant which operates as an automatic temperature control valve.</p> <p>Chief Examiner randomly re-selected 033 A3.02 on 05/02/11.</p>
RO 2/2	055 G2.2.3	<p>The Condenser Air Equipment Control: (multi-unit license) Knowledge of the design, procedural, and operational differences between units is not substantial per design and operation at Turkey Point.</p> <p>Chief Examiner randomly re-selected 055 G2.2.44 on 05/02/11.</p>
RO 2/2	033 A3.02	<p>Ability to monitor automatic operation of the Spent Fuel Pool Cooling System including: Spent fuel leak or rupture does not apply to Turkey Point. There is no equipment that automatically monitors Spent Fuel Pool Cooling System leakage or ruptures.</p> <p>Chief Examiner randomly re-selected 016 A3.01 on 11/10/11.</p>
SRO 1/1	APE 065 AG 2.2.4	<p>The ability to explain the variations in control board layouts, systems, instrumentation and procedural actions between units at Turkey Point is difficult to construct a SRO-Only question. Turkey Point uses a common air system between Units 3 and 4.</p> <p>Chief Examiner randomly re-selected EPE 038 EG2.2.44 on 05/02/11.</p>
SRO 2/1	005 G2.2.4	<p>The ability to explain the variations in control board layouts, systems, instrumentation and procedural actions between units at Turkey Point for the Residual Heat Removal (RHR) system is insignificant. It would be difficult to construct a SRO-Only question.</p> <p>Chief Examiner randomly re-selected 005 G2.2.40 on 05/02/11.</p>
SRO 2/2	028 A2.02	<p>The ability to (a) predict the impacts of the following malfunctions or operations on the HRPS; and (b) based on those predictions, use Procedures to correct, control, or mitigate the consequences of those malfunctions or operations: LOCA condition and related concern over hydrogen does not apply at Turkey Point. An exemption from the hydrogen control requirements of 10CFR50.44 & Appendix A was granted in December 2001. Evaluations have demonstrated large dry containments, such as at PTN, can withstand the effects of hydrogen combustion during design basis accidents without hydrogen concentration control.</p> <p>Chief Examiner randomly re-selected 014 A2.02 on 05/02/11.</p>

Rec'd
11/16/11

SRO 2/2	068 A2.02	<p>The ability to (a) predict the impacts of the following malfunctions or operations on the Liquid Radwaste System ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Insufficient sampling frequency of the boric acid in the evaporator bottoms does not apply at Turkey Point. Waste Evaporators are no longer in service.</p> <p>Chief Examiner randomly re-selected 068 A2.04 on 05/02/11.</p>
SRO 2/2	071 G2.4.3	<p>The ability to identify post-accident instrumentation for Waste Gas Disposal does not measure sufficient knowledge. At Turkey Point, the Waste Gas Disposal is not required as post-accident instrumentation.</p> <p>Chief Examiner randomly re-selected 017 G2.4.3 on 05/02/11.</p>

Rec'd
11/16/11

Facility: Turkey Point		Date of Exam: 12/05/11		Exam Level: RO <input checked="" type="checkbox"/> SRO <input checked="" type="checkbox"/>			
Item Description				Initial			
				a	b*	c*	
1. Questions and answers are technically accurate and applicable to the facility.				RMH	CB	BMH	
2. a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available.				RMH	CB	BMH	
3. SRO questions are appropriate in accordance with Section D.2.d of ES-401				RMH	CB	BMH	
4. The sampling process was random and systematic (If more than 4 RO or 2 SRO questions were repeated from the last 2 NRC licensing exams, consult the NRR OL program office).				RMH	CB	BMH	
5. Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: <input checked="" type="checkbox"/> the audit exam was systematically and randomly developed; or <input type="checkbox"/> the audit exam was completed before the license exam was started; or <input checked="" type="checkbox"/> the examinations were developed independently; or <input checked="" type="checkbox"/> the licensee certifies that there is no duplication; or <input type="checkbox"/> other (explain)				RMH	CB	BMH	
6. Bank use meets limits (no more than 75 percent from the bank, at least 10 percent new, and the rest new or modified); enter the actual RO / SRO-only question distribution(s) at right.		Bank	Modified	New	RMH	CB	BMH
		39,10	12,16	24,19			
7. Between 50 and 60 percent of the questions on the RO exam are written at the comprehension/analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right.		Memory		C/A	RMH	CB	BMH
		44,44		56,56			
8. References/handouts provided do not give away answers or aid in the elimination of distractors.				RMH	CB	BMH	
9. Question content conforms with specific K/A statements in the previously approved examination outline and is appropriate for the tier to which they are assigned; deviations are justified.				RMH	CB	BMH	
10. Question psychometric quality and format meet the guidelines in ES Appendix B.				RMH	CB	BMH	
11. The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with the value on the cover sheet.				RMH	CB	BMH	
Printed Name / Signature a. Author <u>Robert Heidecker / R. Heidecker</u> b. Facility Reviewer (*) <u>S. Bloom</u> c. NRC Chief Examiner (#) <u>BRUNO CABALLERO</u> d. NRC Regional Supervisor <u>Charles W. Lind</u>				Date 12/5/11 12/6/11 12-7-11 12-7-2011			
Note: * The facility reviewer's initials/signature are not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.							

Instructions

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

1. Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
2. Enter the level of difficulty (LOD) of each question using a 1 – 5 (easy – difficult) rating scale (questions in the 2 – 4 range are acceptable).
3. 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.
 - The distractors are not credible; single implausible distractors should be repaired, **more than one is unacceptable**.
 - One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).
4. 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.
5. 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**).
6. Enter question source: (B)ank, (M)odified, or (N)ew. Check that (M)odified questions meet criteria of ES-401 Section D.2.f.
7. Based on the reviewer's judgment, is the question as written (U)nsatisfactory (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
8. At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
1	H	2	x											B	E	<p>007 EK1.06</p> <p>Note: The plausibility of "A" and "C" is based on the actions of 3-EOP-ES-0.2, Natural Circulation Cool down, which requires dumping steam to achieve cold shutdown while maintaining S/G levels between 50 – 60%.</p> <p>1. Stem focus: Simplify the 1st portion of each choice as to whether or not to continue dumping steam. To maintain plausibility, change the 2nd portion of "A" and "C" to continue AFW flow (instead of raise), since levels appear to already be rising. Suggest the following:</p> <p>A. <i>Continue dumping steam. Continue at 450 gpm AFW flow until one S/G is greater than 6% narrow range and then lower AFW flow to just above 345 gpm.</i></p> <p>B. <i>Stop dumping steam. Do NOT continue at 450 gpm AFW flow. Reduce AFW flow to just above 345 gpm until at least one S/G is > 32% narrow range.</i></p> <p>C. <i>Continue dumping steam. Continue at 450 gpm AFW flow until one S/G is greater than 50% narrow range and then control flow as necessary to maintain 50-60% level.</i></p> <p>D. <i>Stop dumping steam. Continue at 450 gpm AFW flow. If cooldown continues, then reduce AFW flow to just above 345 gpm until at least one S/G is > 6% narrow range.</i></p> <p>2. Stem Focus: The 1st bullet needs to be more precise with respect to which units or equipment is experiencing the loss of offsite power. Is Unit 4 affected? Is the LOOP only on Unit 3? Ensure that the 2nd bullet under the current conditions agrees with whatever the 1st bullet is changed to.</p> <p>3. Stem Focus: The stem question can be shortened to "WOOTF identifies the required actions in accordance with 3-EOP-ES-0.1?"</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
2	H	2	x									x		B	E	<p>008 AA1.03</p> <ol style="list-style-type: none"> 1. Stem Focus: The stem does not provide the status of the RCPs. Therefore, the exact Tcold temperature requirement is not clear. Provide RCP status. 2. Stem Focus: The 4th bullet lists Tav_g even though 3-EOP-E-0 lists requirements for Tcold. Change to Tcold. 3. Stem Focus: Because the stem doesn't provide the current S/G pressures, it is not clear whether the S/G Atm Dumps [in AUTO ~ 1092 psig setpoint] are already open or still closed. Provide S/G, steam header pressure. 4. Stem Focus: The stem does not provide the status of the pressurizer, i.e., can the block valve closed and what is pressurizer pressure. Consequently, it is not clear whether E-1 is/is not required. Provide status of pressurizer. 5. Q=K/A: The K/A requires testing the applicants' ability to operate (or monitor) the steam dumps (in manual) to maintain steam header pressure. Each of the 4 choices should provide specific pushbuttons and/or knob manipulations <u>without the amplifying information related to lowering (vs maintaining) Tav_g</u>. This way, the applicants' ability to operate the system will also be tested. In other words, if the applicant must choose which way to turn a potentiometer or knob, then his/her knowledge of Tav_g requirements is also being tested. <p>Note: This question must test some aspect of the emergency/ abnormal (Tier 1 Group 1) stuck open PORV event. The question can be answered by knowing two things: 1) condenser (steam dump) is not available below 20 "Hg and 2) no load Tav_g is 547 °F. Since E-0 has temperature requirements, then the proposed Tav_g question may be acceptable. May be acceptable since the S/G atm dumps are essentially bypassing the turbine so to speak.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
3	H	2	x	x								x		N	E	<p>009 EK3.20</p> <p>1. Q=K/A: Need to change this K/A because it is too hard to hit at the RO level. Chief examiner randomly re-selected 009 EK3.21 to replace this K/A.</p> <p>The proposed question does not test the applicants knowledge associated with the reasons for the Tech Spec leakage limits. The applicant doesn't have to know the reasons for the TS leakage limits to get to the right answer.</p> <p>Because a small break LOCA event is so much larger than an event associated with exceeding the Tech Spec leakage limits, it appears that the K/A is disjointed. (How can one write a question associated with a small break LOCA that deals with the reason for TS leakage limits?)</p> <p>2. Stem Focus: The 7th bullet is not required to elicit the correct response.</p> <p>3. Cue: The 11th bullet (containment sump level annunciator) and the wording of the 13th bullet (containment pressure rising steadily) are strong cue that the correct answer is "D." Feed Reg Valve position (before and after) might be a better way to discriminate between between an RCS leak and a SGTR without cueing the applicant.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
4	F	2	x	x								x		B	U	<p>011 EA2.10</p> <p>1. Q=K/A: The question does not test a large break LOCA event because the stem provides RCS Tavg at 535 °F, which is indicative of a small break LOCA.</p> <p>Additionally, the proposed question tests the applicants' ability to determine when RCPs are / are not manually tripped. The purpose of tripping RCPs is to (hopefully) preserve inventory, this is not the same thing as "VERIFYING" adequate core cooling exists. The intent of the K/A is to test the applicants' ability to analyze parameters and either determine or interpret whether the core cooling is adequate, i.e.,.....</p> <p>Suggest changing the question to test the applicants' ability to use CETs to determine when core cooling is in jeopardy, e.g., red path or orange path.</p> <p>2. Cues: The stem sentence after the bullets ["<i>While reviewing the FOLDOUT PAGE, the reactor operator verifies....</i>"] cues the applicants' that the answer to the question is found on a foldout page. Suggest adding a 9th bullet that only states "No HHSI pumps can be started."</p> <p>3. Stem Focus: The 5th bullet [subcooling is lowering] can be confusing with respect to the word "lowering." Is the RCS becoming more subcooled or is the amount of subcooling diminishing?</p> <p>4. Stem Focus: Pressurizer pressure and level are not provided in the stem.</p> <p>5. Stem Focus: The "reason" (2nd part of each choice) is not needed to elicit the correct response.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
5	F	2	x			x	x							N	E/U	<p>015 AK3.07</p> <ol style="list-style-type: none"> Partial: Choice "C" [<i>maintain an adequate inventory to start a required natural circ cool down</i>] can also be successfully argued as correct because Page 22 of BD-EOP-ES-0.1, states that "S/G level must be restored in the narrow range to ensure an adequate heat sink." Cred Dist: The 1st part of "B" and "D" is not plausible because no containment parameters are provided in the stem. Stem Focus: Change the stem question to "WOOTF identifies the required S/G level control band and the reason for the band in accordance with BD-EOP-ES-0.1, Reactor Trip Response Basis Document?" Stem Focus: The stem does not describe whether the loss of offsite power was limited to Unit 3. Stem Focus: The 2nd part of Choice "B" has a typo – "precluded vs preclude."
6	H	2				x								B	E/U	<p>022 AK1.01</p> <ol style="list-style-type: none"> Cred Dist: Choices "C" and "D" are not plausible because EOP-ECA-0.1 doesn't have any cool down guidance. Additionally, the 2nd part of "C" [<i>keeping the valves closed ensures RCP seal integrity</i>] doesn't ensure seal integrity; it prevents thermal shock, which may (or may not) damage the seals. <p>Suggest testing whether the valves should remain closed or slowly re-opened and some other piece of knowledge.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
7	H	2	X			X								N	E	<p>025 AA1.02 Question appears to match K/A.</p> <ol style="list-style-type: none"> 1. Cred Dist: Distractor "C" is not plausible. Locally unlock and close accumulator breakers will do nothing if the outlet valves are not opened. 2. Stem Focus: Why is pressurizer level so low in the initial conditions? The procedure has the operator verify level is greater than 12%. It should be this way in the initial conditions and then in the current conditions it should state 10% and slowly lowering or something similar. 3. Stem Focus: Distractor "B" should state manually align high head safety injection pumps to RCS cold legs. 4. Stem Focus: The stem of the question should state WOOTF mitigation... IAW 3-ONOP-041.7.... NEW (GWL)
8	H	2	X			X								B	E	<p>027 AK 2.03 Question kind of matches the K/A.</p> <ol style="list-style-type: none"> 1. Cred Dist: Distractor "A" is not plausible. 444J does not ever operate 3-456. This should be 3-455. Furthermore, with the word immediate in the stem this will still NOT be a correct response. The distractor should state Pressurizer PORV 3-455 will open. 2. Stem Focus: Both pressurizer spray valves will open 3. Stem Focus: Why start the question stem with an "If." Just state "the operator inadvertently sets the control for 444J to the setpoint of ..." <p>BANK question used on 2008 NRC exam. (which exam is not listed) (GWL)</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
9	F	2					X	X						M	E	029 EK2.06 Question appears to match K/A. 1. Partial: There is a subset issue with "A", "B" "C", and "D". Add only to the end of all distractors. 2. Job-Link: Not sure that this is correct. Some Westinghouse protection schemes have the shunt trip coil trip on the bypass breakers energize when the manual trip is initiated. I agree that the drawing provided does not show this. Is this a controlled document? Need to verify that this is correct. If I remember correctly the push button was to ensure the shunt trip coil was tested. Modified Bank 2008 McGuire Exam (GWL)
10	H	2				X	X							B	E	038 EK1.02 Question appears to match the K/A. 1. Cred Dist: Distracter "B" is not plausible. Turn on p2r heaters to minimize RCS leakage? Why would anyone pick this? If heaters are on pressure will rise and leakage will increase. 2. Partial: Distracter "D" could be argued as correct. If I lower Subcooling, that will lower RCS pressure and that will decrease RCS to SG leakage. I know this is not the answer in the background document, but it is a fact and could be argued on an appeal. BANK 2007 Farley NRC exam. (GWL)
11	F	2				X								N	E/U	WE12 G2.1.30 Question appears to match the K/A. 1. Cred Dist: Does the ASP contain fuses? If not, distracters "C" and "D" are not plausible. Try, Attempt to close MSIVs by taking switch to Local (already aligned in the closed position) and take switch to local and go to close on switch. Add in accordance with EOP-ECA-2.1. NEW (GWL)

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
12	H	2				X	X							B	E	<p>054 AK3.02 Question kind of matches the K/A.</p> <p>1. Cred Dist: Matching of steam flow and feed flow are in three of the four distracters.</p> <p>2. Partial: "A" may be correct (or at least may not be a totally incorrect answer).</p> <p>3. Cred Dist: Distracter "C" does not seem to be plausible. How could reducing turbine load prevent automatic controls from overshooting, if fact it could cause the controls to overshoot? Which automatic controls are we talking about? (SG FRV's, the auto turbine runback has already failed).</p> <p>BANK 2008 South Texas (GWL)</p>
13	F	2				X								N	U	<p>055 EA2.03 Question appears to match the K/A.</p> <p>1. Cred Dist: Distractors "C" and "D" are not plausible. Powering up 3A and 3B from unit 4 diesels with unit 4 also without power is not plausible; typically DGs are designed to power the respective buses and the ESF loads. They would not be expected to provide all four ESF buses. (Unit 3 A and B, Unit 4 A and B).</p> <p>NEW (GWL)</p>
14	H	3												B	S	<p>056 AA2.54</p> <p>No comments</p> <p>BANK 2005 Davis Besse</p>
15	H	2				X								N	U	<p>057 G2.4.50 Question kind of matches the K/A. (Actions are based on ONOP not alarm response procedure).</p> <p>1. Cred Dist: Distractors B and D are not plausible as written. Why would an automatic turbine trip occur? The procedure states that if 3P08 is de-energized for greater than 10 minutes, then make preparations to trip the plant. Nothing is automatic (unless S/G levels Hi/Lo are exceeded).</p> <p>NEW</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
16	F	2				X								N	E	<p>062 AA1.03 Question appears to match the K/A. (Good job a matching a tough K/A.)</p> <p>1. Cred Dist: Distracter B is not plausible. If the pump is running at minimum speed, and the oil cooler outlet temp reaches 195, how can I reduce speed to minimum? Need to fix this distracter.</p> <p>NEW</p>
17	H	2	x									x		N	E/U	<p>065 G2.4.21</p> <p>1. This is a tough K/A because of the instrument air topic.</p> <p>2. Q=K/A: The intent of the K/A may not be met with the proposed test item (discuss with the licensee) because of the Emergency Procedures/ E-plan topic. The proposed question tests knowledge of the instrument air abnormal procedure. This K/A may need to be re-selected. Discuss w/ Licensee.</p> <p>3. Stem Focus: Suggest the following fill-in-the-blank statement to streamline and make more precisely fit the wording of the RNO column in ONOP-013 and to provide meaning for the "dash" in Choices "A" and "B."</p> <p><i>IF Auxiliary Building instrument air pressure cannot be maintained greater than 65 psig when an RCS cooldown is in progress, THEN _____ as necessary to maintain the cooldown/heatup limitations.</i></p> <p>A. Cycle MOV-3-749A/B, RHR Hx 3A/B CCW outlet valves B. Start and stop RHR pumps</p>
18	H	3	x											N	E	<p>E05 EK2.1</p> <p>1. Stem Focus: A bullet should be added to the stem stating that all RCPs have been stopped to align with Step 3 (prior to Step 4) in 3-EOP-FR-H.1.</p> <p>2. Stem Focus: Re-word the stem question as</p> <p><i>In accordance with 3-EOP-FR-H.1, WOOTF identifies 1) the MINIMUM required actions to initiate Feedwater to the S/Gs AFTER the Safety Injection Signal has been reset and 2) whether any feed water flow restrictions are required?</i></p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
19	F	2				x						x		N	U	<p>003 AK1.02</p> <p>1. Q=K/A: The K/A requires testing the applicants' knowledge of 1) how a Tav_g/Tref mismatch (following a dropped control rod) affects rod control in automatic and 2) the operational implications of this if it were to occur. For example, assuming rods are in AUTO, which way will they move and the implications of them moving this way, i.e., Axial Flux and some other plausible distracter.</p> <p>The proposed question doesn't test applicants' knowledge of how the Tav_g/Tref mismatch will affect rod control. The procedure (ONOP-28.3) requires placing rods to manual, but how would rods be affected in AUTO?</p> <p>2. Cred Dist: The 2nd part of Choices "B" and "D" (rods are left in AUTO) is not plausible because ceasing rod movement after a dropped control rod is the fail-safe answer if one doesn't know what to do.</p>
20	F	2	x	x		x								M	E	<p>005 AA2.03</p> <p>1. Cue: The correct answer (Choice "A") is the only one with a Tech Spec number and is in all caps. Suggest re-wording as "perform OST-??, to calculate Shutdown Margin"</p> <p>2. Cred Dist: Choice "B" is not plausible (align all the good rods with the ones that are stuck at 196 steps), especially since the stuck rods are further out of the core.</p> <p>3. Stem Focus: The last portion of Choice "C" (.."or enter the applicable action statement..") is not necessary to eliminate this choice.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
21	H	2	x			x	x							N	E	<p>024 G2.2.42</p> <ol style="list-style-type: none"> Partial: Choice "C" can be argued as correct since 45 gpm is greater than 16 gpm and because the ARP 097 B17 does not specify a procedure to use for emergency boration. Cred Dist: Choice "C" is not plausible since it is the only one with a procedure reference. Stem Focus: The last portion of all four choices can be eliminated, see suggestion: <ol style="list-style-type: none"> No action required. Immediately initiate boration ≥ 16 gpm. (See comments #1 & 2 above; need another distracter) Be in Hot Standby within 1 hour. Stem Focus: The ARP referenced in the stem has the number B 8/2 and the ARP lists this window as B 17; ensure this is consistent with all other annunciators listed in the stem on the entire exam.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
22	H	2	x			x								B	E	<p>032 AK3.01</p> <p>Note: Per Tech Spec Table 3.3-1, Function 4.a, the source range neutron flux trip is required during applicable mode 2# ("#" sign indicates below P-6; however the version of Tech specs provided on the reference material discs does not include the "#" symbol; instead it says "23." (typo?)</p> <ol style="list-style-type: none"> 1. Cred Dist: The 2nd part of Choice "C" (only intermediate and power range flux low trips are required) is not plausible because the 4th bullet in the stem states that "Reactor power is in the source range only." 2. Stem Focus: The choices are not symmetrical because 3 of the choices allow the startup to continue. <p>Suggest modifying the 4th bullet to provide ACTUAL NI readings from ALL NIs. Modify the 2nd bullet to provide RCS average temperature. (This way the applicants will have to analyze plant status to determine the mode and whether the plant is below P-6) The choices could be modified in the following format (or similar):</p> <ol style="list-style-type: none"> A. <i>The startup may continue because the gamma-metrics are available</i> B. <i>The startup may continue because the plant is above P-6</i> C. <i>The startup may NOT continue because the plant is below P-6</i> D. <i>The startup may NOT continue because the plant is above P-6</i> <ol style="list-style-type: none"> 3. Ensure no overlap w/ Q#23

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
23	H	2				x								B	E	<p>033 AA1.01</p> <ol style="list-style-type: none"> The 2nd part of Choices "A" and "C" is not plausible because the stem does not include any other alarms or instrument indications other than the N-35 values. <p>Add another pre-existing alarm to the stem to add plausibility to whether the reactor trip breakers have opened.</p> <ol style="list-style-type: none"> Stem Focus: The 3rd bullet is not necessary to elicit the correct response. Ensure no overlap w/ Q#22
24	F	2	x	x										B	E	<p>061 AK2.01</p> <ol style="list-style-type: none"> Stem Focus: The proposed question is negatively worded, i.e., WOOTF is NOT.... This is normally not allowed on the NRC written exams IAW NUREG 1021, Appendix B, page 11 of 26. Re-work the question to test WOOTF is.... Stem Focus: The way the stem refers to the alarm window location (i.e., "...on Panel X"...) is not consistent with the protocol for listing annunciators in this exam...should be X4/1 or similar. Cue: The only rad monitor listed inside containment is the correct choice. Additionally, Choice "C" is longer than the other choices.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
25	F	2	x			x								N	U	<p>067 G2.1.30</p> <p>Note: The surveillance procedure in which the local valves are used to start the diesel pump was not provided with the reference material.</p> <ol style="list-style-type: none"> Cred Dist: Choices "A" and "B" are not plausible because they do not include the mechanism used to start the diesel (simulating low pressure?). IF the surveillance provides the methodology and guidance to simulate a low pressure condition THEN Choices "A" and "B" should also include enough of the surveillance guidance and methodology to make these choices plausible. Only closing a drain valve OR opening a "DDFP" (acronym?) sensing line isolation valve is not described in enough detail to become equivalent with pushing the CRANK button in Choices "C" and "D." Cred Dist: Choice "D" is not plausible because the stem does not ask for the minimum required actions. Also, an applicant can read the words "EMERGENCY/MANUAL" listed in the stem question and reason that Choice "D" doesn't have the word MANUAL. Stem Focus: The 2nd bullet is not grammatically correct; should read Unit 3 Transformer IS on fire (not are). Stem Focus: Discuss whether any of the bullets are necessary. It appears the question can be streamlined to test the applicants' knowledge of how to locally start the diesel fire pump without all the bullets.
26	F	2				x								B	U	<p>E13 EA1.2</p> <ol style="list-style-type: none"> Cred Dist: Choices "A" and "B" (open 3B atmospheric dump) are not plausible because the pressure in S/G 3C is much higher than the pressure in S/G 3B. Also, the entry condition for 3-EOP-FR-H.2 is any S/G pressure greater than 1130 psig. <p><i>WOOTF identifies the lowest S/G pressure that requires entry to 3-EOP-FR-H.2 and a required action in this procedure?</i></p> <ol style="list-style-type: none"> 1100 psig; try to dump steam using the S/G steam supply to the AFW pump 1130 psig; try to dump steam using the S/G steam supply to the AFW pump 1100 psig; use blowdown for the affected S/G 1130 psig; use blowdown for the affected S/G

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
27	F	2				x	x	x						B	E	<p>E16 EK3.2</p> <ol style="list-style-type: none"> Job-Link: Step 1 of 3-EOP-FR-Z.3 requires the operator to verify that the containment purge (supply and exhaust) valves are closed. The RNO for this step directs the operator to pull fuses (i.e., DE-energize) for any open valves behind VPB. The stem question asks the applicants' to provide a reason why these valves are RE-energized? This appears to conflict with 3-EOP-FR-Z.3. IF the reason for pulling the fuses is to de-energize the associated ESFAS isolation logic (which would allow power to be restored to the valve actuators), THEN the stem question may be misleading. Discuss w/ licensee. Cred Dist: The 2nd part of Choices "B" and "C" (reduce containment pressure) is not plausible in the context of required actions for a high containment RADIATION condition. Additionally, the stem does not provide any value for containment pressure. Partial: (Noble gases are Helium, Neon, Argon, Krypton, Xenon, and Radon) An applicant may be able to successfully argue that Choice "D" is also correct if the term "noble gases" is interpreted as a generic term pertaining to any radioactive gas. The iodine in containment (after a severe accident) consists of 91% elemental iodine + 5% particulate iodine + 4% methyl iodine. The design of the filter is 90% efficiency for elemental iodine; 95% efficiency for particulate iodine; and 30% efficiency for methyl iodine. (See page 39 of 117 in reference material LP-6902129). Discuss whether the filter will remove radioactive gases. If so, suggest changing this portion of the distracters. Stem Focus: The bullet in the stem is not necessary to elicit the correct response.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
28	H	2	x							x					E	<p>003 A3.01</p> <p>1. Stem Focus: The stem can be streamlined as follows: <i>Unit 3 is operating at 100% power with all controls in automatic. WOOTF completes the following statement?</i> <i>IF the pneumatic supply to HCV-3-121, Charging Flow to Regen Hx is lost, THEN HCV-3-121 will fail to the fully _____ position and the RCP Seal Injection flow rate will _____.</i></p> <p>2. #/units: Verify the ID number and title of this valve matches the controller label in the main control room.</p>
29	H	2	x											B	E	<p>004 A1.07</p> <p>1. Stem Focus: The second part of all four choices should include the word "letdown" before the word "flow." The choices should ideally include the flow indicator name/number to be precise as to flow. The same comment for the pressure indicator name/number referred to in the 2nd part of each choice.</p> <p>2. Stem Focus: Remove the phrase "....along with..." from each of the choices.</p> <p>3. Stem Focus: The stem does not specify which charging pump is in service.</p> <p>4. Stem Focus: The stem should include the noun name for each valve.</p> <p>5. Stem Focus: May want to consider fill-in-the-blank style. <i>Design restrictions on demineralizer operation require the letdown flow rate to be maintained below _____.</i> <i>IF the Low Pressure Letdown Valve, PCV-4-145, fails to the full open position, the demineralizer flow rate _____ be exceeded.</i></p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
30	H	2	x			x		x						N	E	<p>005 K6.03</p> <ol style="list-style-type: none"> 1. Job-link and/or Partial: IF a tube leak malfunction is applied in the simulator, which downstream temperature indicator will rise? An applicant could potentially argue that there is no correct answer because the magnitude of the tube leak is not specified. Also, the stem wording is asking the applicant for the "initial" effect, which is undefined. 2. Cred Dist: Choice "A" is not plausible because IF CCW were to leak into the RHR, THEN it would cause RHR temperature to lower. 3. Stem Focus: Re-word the stem question as: <i>"WOOTF identifies (1) a symptom of the tube leak and (2) how the temperature indication on XX-XXX will be affected?"</i> <p>As a possible alternative to the proposed question, test the applicants' knowledge of an interlock associated with operating the HCV-3-758 since this is technically a part of the "heat exchanger" system, i.e., the outlet TCV. OR the CCW TCV.</p>
31	F	2	x				x							N	E	<p>006 K3.02</p> <ol style="list-style-type: none"> 1. Difficult K/A to hit. 2. Partial: An applicant can successfully argue that Choice "B" is also correct because the stem does not include sufficient detail to predict if fuel damage occurs or not. There may be multiple and/or redundant systems which still could preclude fuel failure even when MOV-4-843A and B are misaligned closed. In order to hit the K/A, suggest testing the applicants' knowledge of how many subsystems the ECCS is comprised (Three) and one of the 10CFR50.46 design criteria that won't be met when all three of these systems fail. 3. Stem focus: The 2nd part of each choice can be streamlined to fuel clad damage will/will not occur.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
32	H	2	x				x							M	E	<p>007 K3.01</p> <ol style="list-style-type: none"> Partial: An applicant can successfully argue that Choice "D" is also correct because there is not enough information in the stem to predict whether containment temperature/radiation will / will not rise to adverse values. Stem focus: The word "conditions" in the 2nd part of each choice should be defined. <p>Suggest replacing the 2nd part of the question to test the applicants' knowledge of one of the containment annunciators that will alarm as a result of the PRT rupture disc failure. Run the scenario on the simulator and observe a rupture disc failure.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
33	F	1				X								M	U	<p>008 K4.02</p> <p>1. Cred Dist and/or LOD=1: The 1st part of Choices "A" and "D" are not plausible because a head tank will always compensate for level prior to any make-up valve. At a minimum, any make-up valve will have some kind of control band and associated dead band for maintaining tank level. These bands can never be as quick to respond as a head tank which is coupled to the piping systems. This renders A(1) and D(1) to be not plausible.</p> <p>The following is a suggestion for a question and should be refined to final form. Suggest the following:</p> <ul style="list-style-type: none"> - RCS/CCW Leak in Thermal Barrier Heat Exchanger of 100 gpm. - CCW Head Tank Level is 80% and slowly rising. - R-3-17A/B is in alarm. <p>WOOTF states (1) the position of RCV-3-609, Head Tank Vent Valve, based on the above conditions, AND (2) the plant or operator response to these conditions?</p> <p>A. (1) closed (2) MOV-3-626, RCP Thermal Barrier Heat Exchanger Return, is currently closed based on the stated conditions.</p> <p>B. (1) closed (2) MOV-3-626, RCP Thermal Barrier Heat Exchanger Return, will NOT auto close due to current conditions.</p> <p>C. (1) open (2) When CCW Head Tank Level reaches 100%, MOV-3-626, RCP Thermal Barrier Heat Exchanger Return, auto closes.</p> <p>D. (1) open (2) IAW 3-ARP-097.CR.H, Refer to 3-NOP-030, CCW, to control level.</p>
34	H	2												B	S	<p>010 K6.01</p> <p>No comments.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
35	F	2												B	?	<p>012 K4.02</p> <p>This question was on the last NRC exam.</p> <p>Ask the licensee how the random selection of ALL bank questions that met this K/A was performed, i.e., what was the methodology? [Note: ALL bank questions constitute ALL questions in the banks that meet this KA, not just the questions that are "mapped" to this K/A.]</p> <p>Another option would be for the licensee to modify or replace the question.</p>
36	H	2				X								B	U	<p>013 A3.01</p> <p>1. Cred Dist: The 2nd part of Choices "B" and "D" are not plausible because the stem states that the channel was placed in trip.</p> <p>Suggest changing the last bullet in the stem to only state that the actions of 3-ONOP-049.1 were completed. This will require the applicant to know whether they are required to place the channel in trip or bypass, thus adding an acceptable amount of plausibility to Choices "B" and "D."</p>
37	H	2				X								B	U	<p>022 K1.01</p> <p>Note: K1 statement requires testing the applicants' knowledge of either 1) physical connections and/or 2) cause-effect relationship between Containment Cooling and service water/cooling system. At Turkey Point, the normal containment cooling units reject heat to the CCW system. To apply this K/A statement at Turkey Point, the CCW system is essentially the "service water/cooling system." See OL feedback item 401.51.</p> <p>1. Cred Dist: Choice "D" is not plausible because if all of the coolers are isolated, it does not make sense that all the coolers would be running; especially when only three are normally running.</p> <p>Choice "C" is not plausible for similar reasons. That is, why would it make sense to have all NCCs stop, yet allow CCW flow to continue through them after a phase A?</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
38	F	2					x							N	E	026 A1.02 1. Partial: An applicant may (successfully) argue that there is no correct answer because the condition, namely temperature, is not sufficient to make a determination for securing sprays. Pressure must also be less than 14 psig. Some minor revision to the stem can likely address this concern.
39	F	2												B	S	039 K4.05 No comments.
40	H	2	x	x		x								M	E	059 A4.11 1. Cred. Dist: Choice "D" is not plausible because the name/description can be used to eliminate it. 2. Cue: Underlining "Main Feedwater Regulating Valves" in the question statement is a cue that Choice "D" is not correct. 3. Stem Focus: Since one S/G is <50% and the others are >50% per the initial conditions, recommend Choice "A" give the band required per procedure (15-50%) or <50%. With one S/G at 45%, would not expect operators to raise level to 50%, which is the max level per procedure.
41	H	2	x			x								B	U	061 K.5.01 1. Cred Dist: Because Choices "C" and "D" are subsets of each other (density decrease and outsurge are equivalent in some cases) an applicant can eliminate both of these choices. 2. Stem Focus: The wording of Choice "C" is disjointed, i.e., "density decrease in pressurizer level." Instead, this choice should specify a density decrease of water in the pressurizer or RCS vice a density decrease in pressurizer level. 3. Stem Focus: Question statement is confusing in that it requests the initial impact on pressurizer level, but specifies if the pump speed <u>continues</u> to lower. Suggest modifying the initial condition to state that pump speed is lowering and remove the part of the question statement that discusses pump speed.
42	H	2												B	S	062 K2.01 No comments

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
43	F	2												N	S	063 K1.03 No comments
44	H	2					x							B	E	064 A2.07 1. Partial: An applicant can (successfully) argue that there is no fully correct answer because being under-excited will not cause a reverse power trip of the EDG breaker if 1000 kw of real load exists.
45	F	2	x											B	E	073 A1.01 1. Stem Focus: Is this a Control Room Ventilation Isolation or Recirculation? The lesson plans call it Recirculation.
46	F	2												N	S	076 2.2.12 No comments
47	F	2										x		B	U	078 A4.01 1. Q=K/A: The question does not test the applicants' ability to operate or monitor the instrument air system pressure gauges because the choices "A" and "C" can be eliminated using the knowledge that at 8% power, a turbine trip does not require a reactor trip. Furthermore, choice "D" can be eliminated based on the RPS trip setpoint for high pzs pressure. Therefore, the applicant can deduce the correct answer (Choice "B") without having any knowledge of the instrument air system. Suggest modifying the question to specifically require knowledge of the instrument air system pressure parameters.
48	H	2												B	S	103 K1.02 No comments

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
49	H	1				x								N	U	004 A2.23 1. Cred Dist and/or LOD=1: The 1 st fill-in-the-blank statement [" <i>If not corrected</i> ____."] in combination with the only stem condition (high differential pressure across a filter) make the 1 st part of Choices "A" and "C" (Labyrinth Seal D/P going high) not plausible, i.e., the stem does not include any information related to another issue that could potentially lead to a high labyrinth seal ΔP. The 1 st fill-in-the-blank statement lends itself strongly to the common sense remedy of "changing the filter." The 2 nd part of Choices "A" and "B" (closing HCV-4-121) and are not plausible because not plausible distracters with a clogged seal injection filter.
50	H	2	x											B	E	010 K6.03 1. Stem Focus: The wording of the stem question (sequence of events) doesn't match Choices "C" and "D" because the 1 st item in Choices "C" and "D" is a "non-event" (spray valve position remains unchanged). 2. Stem Focus: The 3 rd bullet is not clear that the spray valve failed AFTER the mixing evolution was already in progress. Use the word "subsequently." 3. Stem Focus: The word "proper" in the stem question is not needed to elicit the correct response. Suggest re-working the question to test the applicants knowledge of whether PCV-3-455B will close (or will not close) and whether the reactor will (or will not trip).

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
51	F	2	x											B	E	<p>012 K5.01</p> <p>Note: The operational implication of DNB with respect to RPS is the OPΔT trip and its variable setpoint. The proposed question tests the applicants' knowledge of how the OPΔT setpoint varies as Pzr pressure varies.</p> <ol style="list-style-type: none"> 1. Stem Focus: The fill-in-the-blank statement has a question mark at the end (instead of a period). 2. Stem Focus: Make the fill-in-the-blank statement into two sentences. Suggest the following...(alternative for 2nd sentence shown also.) <p><i>The _____ RPS trip provides core protection from a departure from nucleate boiling (DNB).</i></p> <p><i>The trip setpoint value is <u>automatically reduced</u> when RCS pressure _____.</i></p> <p>A. OPΔT; rises B. OPΔT; lowers C. OTΔT; rises D. OTΔT; lowers</p>
52	F	2										x		M	U	<p>013 K2.01</p> <ol style="list-style-type: none"> 1. Q=K/A: The proposed question does not test the applicants' knowledge of the power supply to the sequencer. <p>Suggest re-working the question in the following format:</p> <p><i>WOOTF identifies the power supply to 3A Diesel Generator Sequencer and an operational implication when this power supply is lost?</i></p> <p>A. 3P07; one of the AFW auto start signals is lost B. ????: ???? C. ????: ???? D. ????: ????</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
53	H	2					x							N	U	026 A3.02 1. Cred Dist: The 2 nd part of Choices "A" and "C" (temperature lowers) is not plausible because when a piece of equipment is not running and then started, its temperature ALWAYS rises. 2. Partial: Choice "D" may also be correct. Discuss w/ licensee how the CCW flow will be higher following a Phase B isolation signal. Suggest the following: <i>[A LB LOCA has occurred on Unit 4 and containment pressure has reached 40 psig.]</i> <i>The CCW flow rate to a Containment Spray Pump Heat Exchanger is pre-adjusted to _____. (12 gpm)</i> <i>The CSP A/B COOLING WATER LO FLOW annunciator (H 7/5) set point is _____. (7.7 gpm)</i>
54	H	x	x	x										B	E	062 G2.2.37 1. Cue: The 2 nd bullet provides information which is not needed to elicit the correct response, that is, that the 3C Inverter normally powers 3P06. (This is a normal alignment that the applicant should know.) The fill-in-the-blank statement also includes "3P06", which can be replaced with "the Vital AC Distribution Panel....." 2. Stem Focus: Add another bullet that states all Vital AC systems on both units are in their normal alignment (to clarify any questions that the applicants may have during the exam). 3. LOD = 1: Because the Tech Spec is being provided to the applicants, the correct answer (Choice "B") is borderline direct lookup. Assuming that the 3P06 Panel has transferred to the CVT following the loss of the 3C Inverter, suggest the following: <i>The associated Vital AC Panel is currently being powered from _____ (CVT or Spare Inverter).</i> <i>Tech Spec 3.8.3.1, Onsite Power Distribution, limiting conditions for operation _____ (are/are not) currently met.</i>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
55		x													U	<p>063 K3.02</p> <p>1. LOD = 1: The answer to the question (Choice "A", breaker indicating lights off and manual operation only) can be (correctly) deduced without any plant specific knowledge, i.e., generic fundamentals knowledge (alone) can be used (for any large breaker) to identify that the breaker indicating lights and operation require DC power. The question must test some plant specific knowledge. The 1st portion of the question may be an answer determined solely using GFES; however, the 2nd part should require plant specific knowledge. In this case, the correct answer can be determined solely using knowledge of components/breakers.</p>
56	H	2	x			x								B	U	<p>002 K5.11</p> <p>1. Cred Dist: The 1st part of Choices "B" and "D" (RCS Loop ΔTs lower) is not plausible because the amount of steam flow has risen.</p> <p>2. Stem Focus: The 1st fill-in-the-blank statement is not clear with respect to whether it's asking about ONLY the RCS Loop "B"...OR whether it's asking about the difference between the three loops' ΔTs.</p> <p>3. Stem Focus: The first sentence (Unit 3 is at 100% power.....) should be its own paragraph. Split out the two fill-in-the-blank statements so that they're on two different lines.</p> <p>4. Ensure there is no overlap between this question and the scenario events.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
57	F	2	x					x						B	E	<p>014 A4.01</p> <ol style="list-style-type: none"> Stem Focus: Provide the Tavg channels and their associated (individual) values in the stem. Also provide the 1st stage turbine pressure value. Stem Focus: The choices can be streamlined to test the applicants' ability to predict whether the rods will initially step in at 68 spm (or 40 spm) AND the expected final values for the Tavg channel indications. Job-link: IF the control room crew were moving rods in MANUAL in accordance with procedures, THEN they would be required first to match Tavg/Tref. Is the question proposing that the operator made a mistake? Inadvertently? Discuss w/ the licensee. Stem Focus: The last portion of the stem question (... "prior to matching Tavg and Tref...") is not necessary to elicit the correct response. Re-word to say "WOOTF predicts the effect of placing the Rod Control Bank Selectro Switch to the AUTO position.?" Stem Focus: The stem abbreviation for average RCS temperature is different in the 4th bullet and the stem question.
58	F	2	x									x		B	E	<p>017 K4.01</p> <ol style="list-style-type: none"> Q=K/A: Although the 1st portion of the question (pressure instrument used to calculate subcooling) is testing the K/A, the 2nd portion of the question (how RCS subcooling compares with CET subcooling) is not a design feature or interlock associated with the in-core temperature monitoring system. Re-work the 2nd part of the question to test the applicants' knowledge of which temperature instruments are used by OSPDS. Stem Focus: The 2nd fill-in-the-blank statement is not precisely worded to determine which two indications the applicants are being asked to compare. List the exact instrument numbers for where the applicant is observing "RCS subcooling" and "CET Subcooling."

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
59	H	2	x				x	x				x		M	E	<p>029 K3.02</p> <ol style="list-style-type: none"> 1. Q=K/A: The K/A requires testing the applicants' knowledge of the requirements associated with containment entry when the purge system has a malfunction. It appears that the question can be answered solely using knowledge associated of which fan(s) remain running. The K/A should test some aspect of 0-ADM-009 or some containment entry interlock associated with the loss of purge. 2. Job-Link and/or Partial: What procedure requires the containment purge for this entry? The 2nd bullet states that the Shift Manager has determined that the purge is required; however, which procedure lists the requirement to suspend the containment entry? An applicant could potentially argue that there is no correct answer IF there is no requirement that the entry has to be suspended when the purge is not operating. 3. Stem Focus: The four choices are not symmetrical, i.e., Choice "D" is the only one that lists containment entry may proceed. 4. Stem Focus: Provide the annunciator alarm in the stem (for when R-3-12 failed high).

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
60	F	2	x			x		x				x		N	U	<ol style="list-style-type: none"> 1. Cred Dist: Choices "C" and "D" is not plausible as the FIRST required action because an applicant can safely guess that getting people out of the spent fuel building (for their safety) is paramount. Is the threat to control room operators (bubbles and rising rad) the plausibility intent? 2. Q=K/A: The wording of the K/A allows testing the applicants' ability to monitor AUTOMATIC operation of the cooling system when there is either a spent fuel leak/rupture OR when there is a pool leak/rupture. If there is a convenient way to test the applicants' ability to monitor fuel pool level following a fuel pit liner leak, then this is permissible. [Collector channels are located at the bottom of each wall on both fuel pits to check for leakage through the stainless steel fuel pit liner. At scheduled intervals the valves shown are opened to check for leakage. Leakage is monitored by FI-3/4-6540.] Note, siphoning can also be AUTOMATIC. 3. Stem Focus: Provide actual fuel pool level (instead of saying that level remains stable in the band). 4. Stem Focus: Provide actual fuel pool temperature and trend. 5. Job-link: Which procedure lists the allowances for resetting tripped breakers? Discuss the requirements with the licensee.
61	H	2				x								B	E	<p>035 K6.01</p> <ol style="list-style-type: none"> 1. Cred Dist: Choices "B" and "C" (S/G pressure lowers after an MSIV closes) may not be plausible since closing a main steam isolation valve results in much less steam flow and higher pressure. Suggest running this 21% power scenario on the simulator and using the data to re-work the question to test the applicants' knowledge of how another parameter will respond following the MSIV closure. For example, feed regulating valve position/response.
62	H	2												M	S	<p>041 A4.04</p> <p>No comments.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
63	H	2	x			x	x		x					M	E	<p>045 A1.05</p> <ol style="list-style-type: none"> Stem Focus: The wording (and premise) of the stem question is confusing, i.e., the meaning of the phrase "...without the Turbine directly initiating a Reactor Trip?" is vague and subject to interpretation. The writer's intent (we think) was to describe a situation when the RPS trip on a turbine trip fails to occur but other RPS trips still function correctly. However, the way the stem is worded, the applicants may interpret this as an ATWS. Cred Dist: The 1st portion of "A" and "B" (Tavg INITIALLY drops) is not plausible because the stem implies that an ATWS may have occurred. Partial: An applicant could successfully argue that Choice "D" is also correct since the stem implies that an ATWS may have occurred and lacks other parameters which would eliminate a safety valve opening. Minutia: IF the applicant is being expected to predict how a plant simulator will respond, i.e., whether the PORVs (alone) will be able to handle the pressure spike, THEN this is minutia because of the lack of information provided in the stem. <p>Suggest enlarging the stem to include BEFORE and AFTER sections, including key parameters such as rod status, etc. Utilize a timeline if necessary.</p> <p>Suggest re-working the question to test the applicants' ability to monitor RCS temperature and pressure trends AFTER an normal manual turbine trip (from 100% power). This could be a situation where the secondary plant (MSRs?) continued to draw steam such that either an extremely low Tavg or SI actuation was imminent and the operator was required to close the MSIVs, etc.</p>
64	H	2	x											N	E	<p>055 G2.2.44</p> <ol style="list-style-type: none"> Stem Focus: To correct a grammatical error and streamline, the 1st portion of the stem question should be re-worded as follows: <p>"WOOTF identifies (1) the required IMMEDIATE operator action in accordance with...."</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
65	F	2	x			x									U	<p>068 A2.02</p> <p>1. Cred Dist: The 2nd part of Choices "B" and "D" is not plausible because preliminary mixing does not affect release flows. Additionally, the words "<i>LOW non-representative sample</i>" in the 2nd fill-in-the-blank statement do not lend themselves to selecting Choices "B" and "D."</p> <p>2. Stem Focus: The word "recircs" in the 1st fill-in-the-blank statement is slang.</p>
66	F	2				x								B	U	<p>G2.1.15</p> <p>1. Cred Dist: The 1st part of "Choices "B" and "C" (SI's only required to be reviewed on the first day back to work) is not plausible because a new SI could have been created on dayshift while the operator was sleeping at home.</p> <p>The 2nd part of Choices "B" and "D" is not plausible because the Shift Manager works rotating shifts; therefore, the applicant can (correctly) guess that the Operations Manager creates special instructions on dayshift.</p> <p>Using the thoughts listed above, an applicant can deduce the correct answer (Choice "A") without knowing the requirements of 0-ADM-202.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
67	F	2	x			x								B	U	<p>G2.1.27</p> <p>1. Cred Dist and/or Partial: Because Choice "C" (arming circuit not timed out) is a subset of Choice "A" (system not armed), an applicant can eliminate both of these choices without knowing how the system works.</p> <p>2. Cred Dist: Because the stem question asks for "some of the expected responses" of the AMSAC, an applicant can (correctly) eliminate Choices "C" and "A" because these responses are not a response, i.e., doesn't actuate.</p> <p>3. Stem Focus: Choices "B" and "D" have the same portion (Start AFW pumps); therefore, this can be eliminated from both Choices.</p> <p>Suggest the following:</p> <p><i>WOOTF completes both statements with respect to the ATWS Mitigating System Actuation Circuitry (AMSAC)?</i></p> <p><i>The AMSAC initiation logic is designed such that it _____.</i></p> <p><i>Once actuated, AMSAC will _____.</i></p> <p>A. <i>Energizes to actuate; trip the CRD MG sets</i> B. <i>De-energizes to actuate; initiate a main turbine trip</i> C. <i>Energizes to actuate; Initiate a main turbine trip</i> D. <i>De-energizes to actuate; trip the CRD MG sets</i></p>
68	H	2	x			x								B	U	<p>G2.1.28</p> <p>1. Cred Dist: The 2nd part of Choices "A" and "B" is not plausible because the current 1A header pressure (70 psig) is too far below the plant normal 1A pressure band.</p> <p>2. Stem Focus: The "reason" in the 1st portion of each choice is not required to elicit the correct response.</p> <p>3. Discuss with Chief Examiner how far apart (physically) the two valves (CV-3-1605 and CV-4-1605) are. Want to understand how the 1st valve closes before the 2nd valve.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
69	F	2	x											B	E	1. Stem Focus: All of the bullets can be eliminated and the question can be streamlined as follows: <i>In accordance with Tech Spec Safety Limit 2.1.2, Reactor Coolant System Pressure, the reactor coolant system pressure shall not exceed _____.</i> <i>IF this limit is exceeded when the unit is in Mode 3, THEN, the RCS pressure must be reduced to within its limit within _____.</i>
70	F	2				x								B	U	G2.2.43 1. Cred Dist: Choices "A" and "B" are not plausible because the 1 st portion is too broad of a statement which is (correctly) dismissed as being too broad, i.e., it says "...anything with any system.." Suggest keeping the 2 nd part of the choices, but replacing the 1 st part with something that tests the applicants' knowledge of how the defeated alarms are marked/designated.
71	H	2	x											M	E	G2.3.11 1. Stem Focus: To clarify grammatically and to minimize applicant questions to the proctors during the exam, re-word the question as follows: <i>WOOTF identifies the PREFERRED method of providing feedwater to the S/Gs during the cooldown, including the reason, in accordance with 3-EOP-E-3?</i> A. Standby Feedwater System; the volume of contaminated secondary water released to the environment (post tube rupture) will be less. B. Standby Feedwater System; the amount of radioactivity released via an unmonitored pathway (during the cooldown) will be less. C. Normal Feedwater System; the volume of contaminated secondary water released to the environment (post tube rupture) will be less. D. Normal Feedwater System; the amount of radioactivity released via an unmonitored pathway (during the cooldown) will be less.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
72	F	2	x											M	E	<p>G2.3.12</p> <ol style="list-style-type: none"> 1. Stem Focus: The first part of the stem question could be confused to mean that no refueling is in progress, that is, the core is offloaded. 2. Stem Focus: The last part of Choice "A" ("<i>...during fuel movement activities</i>") is not needed to elicit the correct response. 3. Stem Focus: The last part of Choice "D" ("<i>...for current conditions..</i>") is not needed to elicit the correct response. 4. Re-word as : <i>Unit 3 is in a refueling outage and fuel assemblies are being moved from the core to the spent fuel pool.</i> <i>WOOTF subsequent plant conditions will require the control room operator to evacuate non-essential personnel from the Unit 3 Containment?</i> <ol style="list-style-type: none"> A. <i>Containment integrity is lost</i> B. <i>Unit 3 containment purge supply fan (3V9) trips</i> C. <i>Source range N-31 fails low</i> D. Containment Air Particulate Monitor Channel (R-11)red LED light illuminates
73	F	2				x								N	E	<p>G2.4.22</p> <ol style="list-style-type: none"> 1. Cred Dist: Choice "A" (heat sink – protects RCS boundary) is not plausible. Suggest the following: <i>WOOTF identifies a plant parameter that is required to determine the status of the Heat Sink safety function in accordance with 3-EOP-F-0, Critical Safety Function Status Trees?</i> <ol style="list-style-type: none"> A. Total FW flow B. <i>Core Exit Thermocouple temperatures</i> C. <i>Subcooling</i> D. <i>RCS Cold Leg Temperatures</i>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
74	F	2	x							x				M	E	<p>G2.4.3</p> <p>1. #/units: Each of the choices should include the exact instrument ID number/name that's on the control board label. The exact name of the control board label should be included in each choice.</p> <p>2. Stem Focus: Re-word the stem question to be precise: WOOTF identifies a control board instrument required by TS 3.3.3.3, Accident Monitoring Instrument, and the required color of the instrument label?</p> <p>3. Discuss w/ the licensee the plausibility of "blue" given the choice of colors listed in 0-ADM-209, Enclosure 3.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
75	H	2	x			x		x						N	U	<p>G2.4.9</p> <p>Note: The proposed question appropriately hits the K/A (even though a specific EOP procedure is not being tested) because the EOPs typically don't apply for refueling conditions. However, a loss of RHR during a time when the containment is not isolated is a significant accident mitigation strategy for the plant. Therefore, testing the applicants' knowledge of the ONOP (instead of the EOPs) is appropriate.</p> <p>1. Cred Dist: The 1st part of Choices "A" and "B" [leave a CCW pump running] is not plausible because the stem states that all running CCW pumps are showing signs of cavitation; therefore, the pumps may have already been damaged. There are no examples of this protocol [leaving a pump running after it's been cavitating] in any other Turkey Point procedures.</p> <p>Suggest testing the applicants' knowledge of how often the heatup rate is required to be calculated and how soon the containment is required to be manually isolated (both in accordance with 3-ONOP-50).</p> <p>2. Job-Link: The lowering CCW surge tank level and pump cavitation may not be operationally valid since the containment is open and none of the system walk downs identified any leakage. The CCW system has to be leaking somewhere and, during this plant mode of operation, the cause of the lowering surge tank level and pump cavitation could be determined.</p> <p>3. Stem Focus: The stem should include indications that the loss of CCW has affected RHR (which invokes the ONOP-50 entry), for example, the value and trend on the RHR Temperature Recorder, TR-3-604 should be provided in the stem.</p> <p>4. Stem Focus: The 3rd bullet (time to boil) should have a procedure reference phrase..."in accordance with...." Whatever procedure was used to determine the time-to-boil.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
76	H	2	x			x		x					x	N	U	<p>008 AA2.30</p> <p>1. SRO Only: Plant parameters that require direct entry to major EOPs are RO knowledge items. (major Westinghouse EOPs are E0, E1, E2, E3, ECA-0.0, and Red/Orange Functional Restoration Procedures, see page 7 of 16 in SRO Clarification Guidance document) CETs > 1200 °F is a plant parameter that requires entry to a RED CSFST. Therefore, choices "A" and "C" can be eliminated solely using RO knowledge.</p> <p>2. Cred Dist: Given the two remaining choices (see item #1 above) of "B" and "D", an applicant can eliminate "D" since the RCP status was not provided in the stem and the overall mitigative strategy for Loss of Heat Sink (H.1) was already implemented to turn OFF the RCPs. Therefore, an applicant can (correctly) assume that H.1 was entered (based on initial conditions), and the status of the RCPs is <u>none running</u>, based on the lack of the initial status in the stem for the RCPs.</p> <p>By combining comment #1 and comment #2, the question can be answered solely with RO knowledge associated with 1) CETs > 1200 °F requires entry to RED path and 2) overall mitigative strategy of H.1 was to turn off the RCPs (heat input). The applicant can answer the 2nd part by RO knowledge that the overall mitigative strategy of C.1 is to max steam the S/G to cool down, which allows ECCS accumulator injection.</p> <p>3. Job-Link: IF S/G levels are ALL 35%, how can CETs be 1200 °F and rising? IF the premise is that the hot legs have flashed, then the stem should include the observed effects, i.e., pressurizer level high and a bubble in the vessel, etc.</p> <p>4. Stem focus: The stem does not provide the initial conditions of the RCPs, CET average temperature (for plausibility), and subcooling.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
77	H	2	x			x							x	N	U	<p>011 G2.4.9</p> <ol style="list-style-type: none"> 1. Cred Dist: The 2nd part of "B" and "D" are not plausible because there is an RHR Pump Room flood level alarm and the crew just manually tripped the 3A RHR Pump. An applicant who does not know the procedures can correctly eliminate "B" and "D" based on sump high level and crew action to stop the RHR pump. Also, an operator would not try to start another RHR pump with PZR level at 10% and lowering "quickly." Venting the RHR system does not remedy a high sump level. 2. SRO-only: An applicant can eliminate Choice "C" based on RO knowledge of AOP entry conditions. 3. Stem Focus: The exact label name should be provided for LI-3-462, LI-3-6421, LI-6423, as it appears on the control board. 4. Stem Focus: The title of 3-ONOP-50 is missing in the last bullet. The last bullet should include the word "manually" before the word tripped. 5. Stem Focus: The initial conditions are missing the initial status of RHR, i.e., which pump/loop was running, etc. 6. Stem Focus: The stem states that a reference is being provided; however, the test item data sheet lists no reference provided. <p>Suggest testing the SRO applicants' knowledge of 1) whether ONOP-41.8 Attachment 2 is (or is NOT) required and 2) another piece of information, for example, minimum required e-plan classification, etc.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
78	H	2	x			x								N	E	<p>025 G2.4.21</p> <p>1. Stem Focus: The stem question is asking for one piece of information BEFORE the RHR pump trips and another piece of information AFTER the RHR pump trips. This may not be clear to the applicants so suggest the following (or similar) wording:</p> <p><i>"In accordance with ADM-051, Outage Risk Assessment and Control, WOOTF is 1) the enclosure that identifies the required Unit 3 contingency actions for decay heat removal, given the initial plant status, and 2) the required safe shutdown function color code for decay heat removal AFTER the 3A RHR Pump tripped?"</i></p> <p>2. Cred Dist: The 1st part of the question can be deduced using RO knowledge of RCS Loops Filled (or Not Available) using the initial conditions provided in the stem. However, the stem does not provide any information to make choices "B" and "D" plausible with respect to the RCS Loops not being available. The stem should include a bullet to make the 1st part of "B" and "D" plausible.</p> <p>Note: the 2nd part of the question tests the SRO applicants' knowledge of the enclosure requirements associated with color coding of decay heat removal status. (SRO-only met)</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
79	L	2		x								X		N	U	<p>056 AA2.53</p> <p>1. Q=K/A: The topic is a loss of offsite power. The 2nd part of the K/A (interpreting the status of the relays) is not being tested with respect to a loss of offsite power condition. The 2nd part of the question only tests the applicants' recall of the frequency of OSP-203.1. The 2nd part of the question can be asked by covering up everything else in the stem, i.e., "What's the frequency of OSP-203.1?" Consequently, the SRO applicants' ability to interpret the status of the relays is not being tested.</p> <p>2. Cue: The NOTE in the stem states that the surveillance is satisfied using the Train A Safeguards test, which makes the question able to be answered using RO knowledge because typically the RO performs portions of the 18 month surveillance.</p> <p>The question could be re-worked to test the applicants' ability analyze or interpret the safety bus undervoltage relays during a loss of offsite power OR...another way to remedy is to require the SRO applicants' to analyze an actual surveillance interval and determine the required actions when the surveillance interval was exceeded. As written, the question does not test the applicants' ability to interpret the status of the relays at the SRO level.</p> <p>Another option to hit the first portion of the K/A, and to remedy comment #1 (above): the question could test the applicants' ability to apply Tech Spec 3.3.2 for Function 7.a:</p> <p><i>WOOTF identifies when the loss of voltage relays actuate (setpoint) and the required actions in accordance with Tech Spec 3.3.2, ESFAS Instrumentation, if the relays' setpoint is (inoperable)?</i></p> <p>A. Amber light lit; TS Action ? B. 4KV Bus 3A Lo Voltage (alarm designator; TS Action ?</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
80	H	2	x	x		x				x				N	E	<p>038 G2.2.44</p> <p>Note: This K/A was initially 065 G2.2.4; however, the licensee was unable to write a discriminating question at the SRO level; therefore, the new K/A (038 G2.2.44) was re-selected.</p> <p>Because the intent of the author meets the SRO-only requirements, and because the question can be easily repaired, it is graded as an "enhancement" even though the following criteria for unsat seems to be met.</p> <p>1. Cred Dist: The 2nd part of "C" and "D" is not plausible because the ONLY path to ECA-3.2 is THROUGH ECA-3.1. [For example, ECA-3.3 is a plausible choice because E-3 Step 23 has guidance when to directly transition to ECA-3.3, SGTR w/o Pzr Press Ctl.] E-3 never provides guidance to transition to ECS-3.2; therefore, choices "C" and "D" are not plausible.</p> <p>One option to fix this test item is to test the SRO applicants' knowledge (in the 2nd part of the question) of WHERE the steps are located that the crew will use to perform the cool down, based on the given conditions in the stem, ECA-3.1 or ECA-3.2.</p> <p>ANOTHER option to fix this test item is to add one more bullet to the stem pertaining to something about pressurizer spray valves and then CHANGE the 2nd part of "C" and "D" to ECA-3.3.</p> <p>2. Cue: The 2nd fill-in-the-blank statement has a phrase "for RCS cooldown and depressurization", which cues the applicant to the overall mitigative SGTR strategy (vs testing the applicants' knowledge of procedure content.)</p> <p>3. #/Units: For the last bullet in the stem, provide the name of the instrument/screen and the exact name listed on the instrument/screen display for RCS Subcooling. Only provide what the operator will actually be provided in the real control room.</p> <p>4. Stem Focus: Re-word the fill-in-the-blank statements as follows:</p> <p><i>In order to remain in 4-EOP-E-3, Steam Generator Tube Rupture, RCS subcooling is required to be greater than ____.</i></p> <p><i>IF RCS subcooling is not greater than this value, THEN the crew is required to transition to ____.</i></p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
81	H	2		x		x				x				M	U	<p>W/E04 EA2.1</p> <p>Note: The best way to test the SRO applicants' knowledge of procedure content (i.e. procedure selection) is to provide the name/number of the procedure choices WITHOUT any accompanying "mitigative" actions listed in the choices.</p> <ol style="list-style-type: none"> 1. Cred Dist: Choices "A" and "C" are not plausible because RCS pressure is 1540 psig and rising (higher than shutoff head of RHR pumps). Additionally, the alternate low head (RHR) cold leg lineup path (via MOV-3-872) is still available, as well as the piggy back mode, if necessary. Choice "C" is not plausible because RWST level is not included in the stem. 2. Cue: The 2nd parts of each choice cue the SRO applicant and unnecessarily preclude the question from testing the SRO applicants' knowledge of the CONTENT of the procedure. [The SRO applicant should know the content of the procedure and the required actions.] 3. #/units: The acronym "PZR" should be listed as pressurizer though out the whole exam.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
82	H	2	x				x					x		B	E	<p>001 AA2.05</p> <ol style="list-style-type: none"> 1. Stem Focus: The stem question requires the applicants to identify a procedure; however, none of the choices contain a procedure. (no correct answer) This appears to be a typo or obvious omission. 2. Partial: The link between Tech Spec 3.1.3 BASES and the stem scenario is weak. Tech Spec BASES are associated with rods misaligned beyond TS 3.1.3 limits. Since the stem does not specifically indicate that the rods are misaligned beyond the TS 3.1.3 limits, an applicant could successfully argue no correct answer. Suggest re-working the 2nd part of the question to test the applicants' ability to apply Tech Spec 3.1.3. 3. Stem Focus: IF control rods are being moved, the stem should indicate the position of the AUTO/MANUAL and Bank Selector Switches. Additionally, the stem does not indicate which direction the rods were positioned. 4. K/A: The K/A may be more appropriate when rods are in AUTO. The proposed question is written with the assumption (?) that rods are in Manual; therefore, uncontrolled rod withdrawal may not be possible. Suggest writing a question that tests the applicants' knowledge of whether AUTOMATIC rod movement <u>is/is not</u> justified and some other SRO knowledge pertaining to reactivity management classification, reporting, Tech specs, etc.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
83	H	3	x	x		x				x				N	E	<p>069 (W/E14) G2.4.41</p> <ol style="list-style-type: none"> 1. Cred Dist: Choice "C" is not plausible because PARS are never <u>REQUIRED</u> actions during a Site Area Emergency (only a recommendation, never a <u>requirement</u>). Word the stem to test the applicants' knowledge of the highest <u>required</u> classification and <u>required</u> PARS. The F444 PAR recommendation flowchart states that if a GE doesn't exist, then there are <u>NO</u> RECOMMENDED protective action recommendations. Recommend changing the 2nd part of the question (expanding the question) to test the applicants' ability to determine which SECTORS are required to be evacuated given the wind speed/direction. 2. Cue and/or #/units: The 5th bullet ("RCS is superheated") should be provided in terms of the available indications in the main control room. 3. Stem Focus: the 3rd bullet is grammatically incorrect and not clear with respect to what's operating and not operating. Re-word to state the equipment that is operating and/or injecting to the RCS. 4. Stem Focus: There should be another bullet (or addition to the 8th bullet) that specifies whether actual field measurements have/have not been performed. This will clarify that the 150 mR TEDE is a dose PROJECTION. 5. PROPOSED REFERENCES: Discuss w/ Chief Examiner which portions of EPIP-201001 and -20134 will be provided to the applicants. Minimize what is being provided. Suggest only providing the flowcharts (not the accompanying bases tables).

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
84	H	3	x											N	E	<p>076 AG2.4.31</p> <ol style="list-style-type: none"> Stem Focus: The 2nd and 3rd bullets are redundant; eliminate one. Stem Focus: The way the 1st fill-in-the-blank statement is worded makes it very confusing; i.e., the 1st statement contains TWO sentences. Suggest the following: <i>In accordance with 3-ONOP-041.4, title, the average reactor coolant temperature is required to be less than _____ within 6 hours. (use 350 °F and 500 °F as the two choices).</i> Stem Focus: The 2nd fill-in-the-blank doesn't specify that the activity is dose equivalent iodine 131. Also, it doesn't tell the applicant to choose the "highest REQUIRED" emergency classification. Suggest the following: <i>IF, during the shutdown, the reactor coolant activity (dose equivalent iodine) stabilizes at 320 µCi/gm, THEN the highest required emergency classification is a _____.</i> (use the word "stabilize" in the 2nd fill-in-the-blank statement to add plausibility to unusual event.) PROPOSED REFERENCES: Discuss w/ Chief Examiner which portions of EPIP-201001 and -20134 will be provided to the applicants. Minimize what is being provided. Suggest only providing the flowcharts (not the accompanying bases tables).

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
85	H	2	x			x								M	U	<p>W/E03 EA2.2</p> <ol style="list-style-type: none"> 1. Cred Dist: Choice "A" (SI Termination) is not plausible because the stem does not provide the status of all the parameters listed on the foldout page (i.e., missing FW flow and PZR level). Choice "D" (Pressurized Thermal Shock) is not plausible because the stem does not include how long the Tcold condition has existed since the LOCA occurred and the Tcold trend. Additionally, Choice "D" is not plausible with 580 psig, saturation temp is about 476 °F, not a very large cool down. 2. Stem Focus: The RWST trend is missing. Also recommend either choosing 255,000 gallons and lowering or 175,000 gallons and lowering to add plausibility to Choice "C." 3. Stem Focus: The 1st sentence should say that the crew entered 3-EOP-E-1 (instead of Unit 3 entered 3-EOP-E-1). 4. Stem Focus: The 3rd bullet should be separated into two bullets, the AFW bullet should say which pumps are operating, including the S/G feed flow values.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
86	F	2	x					x						N	E	<p>003 A2.03</p> <p>1. Stem Focus: Each of the choices contains "tripping the reactor"; therefore, the choices can be streamlined by eliminating redundant info and rewording the question. In other words, each of the choices can be "boiled down" to motor stator (motor bearing) and 1 hour (4 hours)</p> <p><i>WOOTF completes both statements?</i></p> <p><i>The parameter that will first reach its RCP stopping criteria value listed in 4-ONOP-04.1, Reactor Coolant Pump Off-Normal, is _____.</i></p> <p><i>After the reactor is manually tripped, the NRC Operations Center is required to be notified within _____, in accordance with 0-ADM-115, Notification of Plant Events.</i></p> <p>2. Job-link: Enclosure 1 (NRC Notification Table, page 1 of 9) of 0-ADM-115 was provided with this draft question and the phrase "initiation of any nuclear plant shutdown required by Tech Specs" was highlighted as being the 4 hour criteria. It appears that the correct item should be "an event that results in actuation of RPS when the reactor is critical" since the notes specify that manual RPS actuation not part of a pre-planned sequence is reportable. Verify w/ licensee that the question is not associated with the initiation of a plant shutdown.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
87	H	3				x								N	E	<p>005 G2.2.40</p> <p>Note: This K/A was initially 005 G2.2.4; however, the licensee was unable to write a discriminating question at the SRO level; therefore, the new K/A (005 G2.2.40) was re-selected.</p> <ol style="list-style-type: none"> Cred Dist: Choice "C" (be in Mode 3 by 14:57) is not plausible since the stem says the shutdown was just started at 14:44, i.e., Choice "C" says to trip the reactor only 13 minutes after the shutdown was started. <p>Because the intent of the author meets the SRO-only requirements, and because the question can be easily repaired, it is graded as an "enhancement" even though the following criteria for unsat seems to be met.</p> <ol style="list-style-type: none"> Cred Dist: There is a chance that an applicant could read Choices "C" and "D" to imply that <u>only</u> Mode 3 is required (even though Tech Spec 3.0.3 requires going to Cold shutdown), which is not the author's intent. <p>Discuss re-wording the choices as follows:</p> <ol style="list-style-type: none"> The Unit 3 shutdown can be stopped, but no earlier than 15:51 The Unit 3 shutdown can be stopped, but no earlier than 16:04 Unit 3 must be in Mode 3 by 19:57; Mode 4 by 01:57; and Mode 5 within the subsequent 24 hours Unit 3 must be in Mode 3 by 20:44; Mode 4 by 02:44; and Mode 5 within the subsequent 24 hours <ol style="list-style-type: none"> Ensure that the only reference being provided to the applicants is Tech Spec 3.5.2. (no bases, no 3.0.3, no definitions)

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
88	H	2	x			x	x							N	E	<p>062 G2.2.22</p> <p>Because the intent of the author meets the SRO-only requirements, and because the question can be easily repaired, it is graded as an "enhancement" even though the credible distracters criteria seem to be unacceptable.</p> <ol style="list-style-type: none"> 1. Cred Dist: Choice "A" is not plausible because IF 24 hours is a reasonable time to fix the transformer, THEN 48 hours can't be a reasonable time to fix the transformer. Since we must provide Tech Spec 3.8 to the applicants, they can readily determine that 24 hours is the required time. By knowing the 1st part of the question, the 2nd part of the question (bases knowledge) isn't being tested since they can eliminate the 2nd part of "A." (IF 24 hours is reasonable, THEN 48 hours can't be a reasonable). 2. Cred Dist: "A" and "B" are not plausible because the phrase [<i>the time period..</i>] is ambiguous with respect to either the 48/24 hours OR the 12hrs/30days, an applicant can readily eliminate Choices "A" and "B" based on the ambiguity of which <i>"time period"</i> the 2nd part is referring to. <p>[Note: Ask the licensee to provide the plausibility justification excerpt listed in 0-ADM-225, Online Risk Assessment, for startup transformers.]</p> <ol style="list-style-type: none"> 3. Stem Focus: In all four choices, the use of "<" should be confined to power (not the time). Word the choices exactly like the Tech specs are worded to avoid confusion and to be grammatically correct. 4. Partial: There may be no correct answer, i.e., "D" may not be correct since it says that Unit Three can operate for 30 days. Ask the licensee whether this 30 day allowance is for Unit FOUR instead of Unit 3. 5. Stem Focus: The 2nd part of the stem question is not an action, it is the basis for the action. The stem question should be worded more precisely to clarify this distinction to the applicants. Suggest the following: <p><i>WOOTF identifies 1) the required Tech Spec actions in accordance with Tech Spec 3.8, AC Sources and 2) the bases for this action in accordance with 0-ADM-536, Tech Specs Bases Control Program?</i></p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
89	F	2	x			x		x						M	U	<p>073 A2.02</p> <ol style="list-style-type: none"> 1. Cred Dist: Choices "A" and "B" are not plausible because ONOP-67 was written to prescribe guidance when R-14 fails. It is not plausible that this procedure would have no required actions. Furthermore, because the stem is worded "<i>in accordance with ONOP-67..... determine required action, if any...</i>"; an applicant can readily eliminate choices "A" and "B" ("<i>continue the release</i>") since these choices aren't worded to say "<i>ONOP-67 has no required actions.</i>" (←-which isn't plausible). 2. Cred Dist: Choice "B" is not plausible because the 1st portion (continue release based on initial sample) and 2nd portion (ensure samples performed every 4 hours) conflict with each other. In other words, IF the release can continue based on the initial sample results, THEN why would two independent samples (again) be required during the release? 3. Cred Dist: Because the ROs typically know that a release can be made when a rad monitor is inoperable, this makes the 2nd part of "A" and "C" not plausible. 4. Stem focus: The stem is missing a bullet which states that the initial sample results (prior to the release) were acceptable in accordance with 0-NCOP-004, Prep of Gas Release Permits. [provide a copy of this to Bruno.] 5. Job-Link: Verify w/ licensee that R-14 downscale condition won't automatically isolate a WGD release. (most process rad monitors' auto function occurs on High alarm or downscale condition) <p>Suggest the following (and associated re-wording of the stem):</p> <ol style="list-style-type: none"> A. Release may continue; some other SRO knowledge B. Release may continue; some other SRO knowledge C. Release must be immediately terminated; some other SRO knowledge D. Release must be immediately terminated; some other SRO knowledge

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
90	H	2	x										x	M	U	<p>076 A2.01</p> <p>1. SRO-only: The proposed question can be answered using RO knowledge. First, the Reactor/Turbine trip criteria (listed in foldout page in ONOP-19) is RO knowledge, which can be used to eliminate Choice "A."</p> <p>Secondly, the TPCW Heat exchanger allowable/normal ICW flow rates and the system knowledge that ICW issue does/does not require entry to ONOP for TPCW Malfunction is RO knowledge, which can be used to eliminate Choice "C."</p> <p>Thirdly, the knowledge associated with the overall mitigation strategies delineated in with ONOP-19 (ICW), ONOP-11 (Screen Wash), and ONOP-08 (TPCW) is RO knowledge and can be used to deduce the correct answer "B."</p> <p>2. Stem Focus: The TPCW supply header temperature is missing from the stem. This is an important parameter.</p> <p>3. Stem Focus: The exact actions (valves) which were manipulated in the last bullet need to be included in the stem to ensure the applicants know exactly what was adjusted.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
91	H	2	x			x		x					x	N	E	<p>014 A2.02</p> <p>Note: This K/A was initially 028 A2.02; however, the hydrogen control function was not applicable at Turkey Point; therefore, the new K/A (014 A2.02) was re-selected.</p> <ol style="list-style-type: none"> Job-Link: SD 006/SYS. 028B states that (to improve reliability of the RPI system power supply) a static transfer switch, integrally mounted with the inverter, (automatically?) transfers load to the CVT in the event of an inverter failure. The premise of the proposed question is a MANUAL transfer to the CVT (even though the system AUTOMATICALLY transfers). Because the intent of the author meets the SRO-only requirements, and because the question can be easily repaired, it is graded as an "enhancement" even though the credible distracters criteria seem to be unacceptable. Cred Dist: Because all actions listed in Tech spec 3.1.3.2 are greater than 1 hour action statements, the Tech Spec <u>must</u> be provided as a reference to the applicants. Consequently, the 2nd part of Choices "A" and "B" are not plausible since none of the action statements are 2 hours. Suggest changing the 2nd part of Choices "A" and "B" to: <i>"Determine the position of the non-indicating rod(s) indirectly by the movable incore detectors at least once/8 hours and w/ 1 hr after any motion of the non-indicating rod that exceeds 24 steps."</i> SRO-only: 3-ONOP-28.2, Step 5.7 states: <i>"IF two or more RPIs per bank are inoperable in Mode 1 or 2, THEN within 1 hour, commence power reduction to Mode 3, Hot Standby, using 3-GOP-103, Power Operation to Hot Standby, AND be in Hot Standby within the next 6 hours".</i> Because this is part of the ONOP's overall mitigative strategy, an applicant can eliminate Choices "A" and "B" using RO knowledge without knowing anything about Tech Spec 3.1.3.2. Stem focus: The 3rd bullet is not specific as to which breaker tripped open. Was it breaker #49? Breaker # CB-1? Stem focus: The 1st part of the question can be simplified by testing the applicants' knowledge of which indications will be lost (analog or step counters). It is not necessary to include the method to restore power since the question has two parts.

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
92	F	2	x	x			x							N	E	<p>068 A2.04</p> <p>Note: This K/A was initially 068 A2.03; however, the licensee was unable to write a discriminating question at the SRO level; therefore, the new K/A (068 A2.04) was re-selected.</p> <ol style="list-style-type: none"> Partial: "B" can be argued as correct because of the phrase "<i>may have exceeded</i>." Ask the licensee if their NPDES permit includes tritium (most NPDES permits involve thermal pollution). IF the NPDES permit includes tritium limitations, THEN an applicant can successfully argue that "B" is also correct. Partial: An applicant can argue that there is not enough information provided to answer the question because of the phrase "<i>may have exceeded</i>" in each of the four choices. IF the operator promptly stops the monitor tank pump "A", THEN the release may not have exceeded any ODCM limits. <p>Because the intent of the author meets the SRO-only requirements, and because the question can be easily repaired, it is graded as an "enhancement" even though the credible distracters criteria seem to be unacceptable.</p> <ol style="list-style-type: none"> Cred Dist: "B" and "D" are not plausible because the 2nd parts of these choices include Co-60 and tritium. Since NPDES permits normally don't restrict radioactive isotopes at nuclear plants, the Co-60 and tritium make these choices not plausible. Suggest only listing ODCM and NPDES (eliminate the Co-60 and tritium). Stem Focus: The stem question must be worded to elicit the REQUIRED actions (not "should"). Stem Focus: The 2nd part of the question is vague because of the term "regulatory impact" in the stem. The stem question needs to be more precise to test applicants' knowledge of ODCM, ADM-115, or 0-NCOP-003 requirements. Cue: The last part of the 2nd bullet ("...is received from R-18, Waste Disposal System Liquid Effluent Monitor..") is not necessary to elicit the correct response. Reference disc does not include copy of liquid release permit 0-NCOP-003.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
93	H	2	x											N	E	<p>017 G2.4.3</p> <p>Note: This K/A was initially 071 G2.4.3; however, the licensee was unable to write a discriminating question at the SRO level; therefore, the new K/A (017 G2.4.3) was re-selected.</p> <p>1. Stem Focus: Streamline the four choices to the following:</p> <p>A. <i>Action Statement 31; Startup may NOT continue</i> B. <i>Action Statement 32; Startup may NOT continue</i> C. <i>Action Statement 31; Startup may continue</i> D. <i>Action Statement 32; Startup may continue</i></p>
94	F	2	x										x	N	U	<p>G2.1.36</p> <p>1. SRO-only: The correct answer ("C") can be deduced using systems knowledge that the R-3-11, and R-3-12 rad monitors utilize a one-inch stainless steel tube, which taps off of the containment HVAC supply header, to supply the required flow past the R-11 and R-12 detectors. [Without air flow past the detectors, they will not sense a containment radiation condition.]</p> <p>Because the last sub-bullet states "<i>R-3-11 and R-3-12 – ACTUAL STATUS: R-3-11 and R-3-12 are available without Normal Containment Coolers running</i>", the applicant can answer the question without testing any SRO knowledge associated with procedures/limitations involved in core alterations.</p> <p>2. SRO-only: Choice "A" is above-the-line (TS) knowledge of TS 3.9.4; Choice "B" is above-the-line knowledge of TS 3.9.2. Choice "D" is no action required. Choice "C" (correct answer) is TS 3.9.13 (knowledge that at least one train of rad monitors to initiate a required control room isolation is available..</p> <p>3. Stem Focus: The 1st bullet states that Unit 3 is operating. This should be changed to "Unit 3 is in Mode 6."</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
95	F	2											x	N	U	<p>G2.2.35</p> <ol style="list-style-type: none"> 1. SRO-only: The 1st part of the question (which Mode OMS is required to be operable) is RO knowledge. The 2nd part of the question can be (correctly) answered by knowing the purpose of OMS; i.e., OMS protects RCS from over-pressurization due to start of idle RCP or HHSI pump injection into a water solid RCS. Knowledge of the Tech Spec basis (in this case) overlaps the purpose/function of the system. The way the choices are worded, the TS basis knowledge isn't required; only whether they are isolated or unisolated is required to answer the question. 2. Q=K/A: The K/A should test the applicants' ability to determine which TS mode the plant is in. Instead, the question asks for which mode OMS is required to be operable. Ideally, the stem should provide temp/press/Keff, etc and ask for the mode of operation and some other SRO knowledge item.
96	F	2	x			x	x							N	U	<p>G2.2.7</p> <ol style="list-style-type: none"> 1. Cred Dist: "A" and "B" are not plausible because only a licensed senior reactor operator can (ever) direct an RO to move rods. (10CFR55.4 requirement) 2. Partial: "C" can also be argued correct because the Test Director could potentially be the Management Designee. 3. Stem Focus: The fill-in-the-blank statement is too long and needs to be split into two sentences since it involves two separate thoughts associated with ADM-217. 4. Stem Focus: The 2nd portion of the fill-in-the-blank statement is grammatically incorrect ("<i>...the Shift Manager shall received...</i>"). 5. Stem Focus: If you put your hand over the top of the stem (i.e., cover up all the bullets), you can still answer the question by solely using the fill-in-the-blank portion of the stem. Delete the top portion by simply stating that an infrequently performed test is in progress.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
97	F	2	x	x										N	E	<p>G2.3.5</p> <ol style="list-style-type: none"> 1. Cue: The word "<i>HIGHEST</i>" in the 2nd part of the stem question is a cue to the correct answer. Instead, use the words "<i>minimum required permission</i>." 2. Stem Focus: 3-NOP-053 is applicable to both parts of the stem question; therefore, put the procedure number/title at the end of the stem question. 3. Stem focus: try to put the name/number of each rad monitor under the stem question to streamline each of the choices to only numbers.
98	F	2	x				x							M	E	<p>G2.3.4</p> <ol style="list-style-type: none"> 1. Partial: Choice "D" can also be argued as correct because the OSC Rad Protection Supervisor signature is required on 0-EPIP-20111, Attachment 2, Emergency Exposure Authorization Form. The OSC Rad Protection Supervisor is the same thing as the OSC Health Physics Supervisor. 2. Stem focus: The stem can be boiled down to two fill-in-the-blank statements: <i>WOOTF completes both statements in accordance with 0-EP-20111, Re-entry?</i> <i>The _____ is responsible for authorizing emergency exposures that exceed 10 CFR 20 limits.</i> <i>The emergency exposure limit for performance of actions that mitigate the escalation of the event, rescue persons from a non-life threatening situation, or minimize exposures or minimize effluent releases is _____.</i>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
99	H	2	x				x							N	E	<p>G2.4.29</p> <p>1. Partial: This question is too subjective for two reasons:</p> <p>1) Since the steam supply valve to AFW from the ruptured generator is still open, the SRO may decide to say that a release is in progress. On the other hand, the SRO may decide that a release is NOT in progress if the AFW pumps are not running.</p> <p>2) The decision of whether to clear owner controlled areas outside the protected area is a judgment call, which depends on how much dose the personnel will receive during the evacuation. None of this information is provided in the stem.</p> <p>2. Stem focus: The stem question is poorly worded to elicit the answer to the question of whether the owner controlled area outside the protected area is / is not required to be evacuated. ("status of evacuation" plan is poorly worded).</p>
100	F	1	x											N	U	<p>G2.4.40</p> <p>1. LOD = 1: This question will not discriminate because Choices "B", "C", and "D" are all OFFSITE ACTION decisions whereas Choice "A" has little or no consequence during an emergency event.</p> <p>2. Stem Focus: The choices contain capitalized words that should be lower case.</p>

Facility: <u>TURKEY POINT</u>		Date of Exam: <u>12-14-11</u>		Exam Level: RO <input checked="" type="checkbox"/> SRO <input checked="" type="checkbox"/>	
Item Description	Initials				
	a	b	c		
1. Clean answer sheets copied before grading	MJR	N/A	LL		
2. Answer key changes and question deletions justified and documented	MJR		LL		
3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	N/A		LL		
4. Grading for all borderline cases (80 \pm 2% overall and 70 or 80, as applicable, \pm 4% on the SRO-only) reviewed in detail	N/A		LL		
5. All other failing examinations checked to ensure that grades are justified	MJR		LL		
6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	MJR		LL		
Printed Name/Signature		Date			
a. Grader	<u>MARK J. RICHES / Mark J. Riches</u>	<u>02-08-12</u>			
b. Facility Reviewer(*)	<u>N/A</u>				
c. NRC Chief Examiner (*)	<u>Edwin Lee, Jr. / Edwin Lee, Jr.</u>	<u>2/8/2012</u>			
d. NRC Supervisor (*)	<u>UNCOOL T. WIDMANN / Uncool T. Widmann</u>	<u>2/9/12</u>			
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.					