

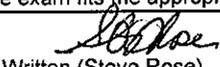
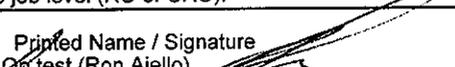
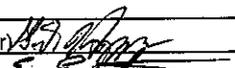
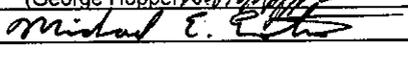
# Administrative Documents

## TURKEY POINT EXAM 2002-301

50-250, 50-251/2002-301  
OCTOBER 7 - 11 & 15, 2002

- ✓ 11. ✓ Exam Preparation Checklist . . . . . ES-201-1
  - ✓ 12. ✓ Exam Outline Quality Checklist . . . . . ES-201-2
  - ✓ 13. ✓ Exam Security Agreement . . . . . ES-201-3
  - ✓ 14. ✓ Administrative Topics Outline (Final) . . . . . ES-301-1
  - ✓ 15. ✓ Control Room Systems and Facility Walk-through Test Outline  
(Final) . . . . . ES-301-2
  - ✓ 16. ✓ Operating Test Quality Check Sheet . . . . . ES-301-3
  - ✓ 17. ✓ Simulator Scenario Quality Check Sheet . . . . . ES-301-4
  - ✓ 18. ✓ Transient and Event Checklist . . . . . ES-301-5
  - ✓ 19. ✓ Competencies Checklist . . . . . ES-301-6
  - ✓ 20. ✓ Written Exam Quality Check Sheet . . . . . ES-401-7
  - ✓ 21. ✓ Written Exam Review Worksheet . . . . . ES-401-9
  - ✓ 22. ✓ Written Exam Grading Quality Checklist . . . . . ES-403-1
  - ✓ 23. ✓ Post-Exam Check Sheet . . . . . ES-501-1
  - ✓ ✓ *SAMPLE PLAN* <sup>(ES-401-3)</sup> (ES-401-4)
- ES 401-10*

Facility: <u>Turkey Point Nuclear Plant</u> Date of Exam: <u>October 7-11, 2001</u>		
Examinations Developed by: Written: NRC Operating: NRC (outline)/Facility (guts)		
Target Date*	Task Description / Reference	Chief Examiner's Initials
-180	1. Examination administration date confirmed (C.1.a; C.2.a & b)	<i>rfa</i>
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	<i>rfa</i>
-120	3. Facility contact briefed on security & other requirements (C.2.c)	<i>rfa</i>
-120	4. Corporate notification letter sent (C.2.d)	<i>rfa</i>
[-90]	[5. Reference material due (C.1.e; C.3.c)]	<i>rfa</i>
-75	6. Integrated examination outline(s) due (C.1.e & f; C.3.d)	<i>rfa</i>
-70	7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)	<i>rfa</i>
-45	8. Proposed examinations, supporting documentation, and reference materials due (C.1.e, f, g & h; C.3.d)	<i>rfa</i>
-30	9. Preliminary license applications due (C.1.i; C.2.g; ES-202)	<i>rfa</i>
-14	10. Final license applications due and assignment sheet prepared (C.1.i; C.2.g; ES-202)	<i>rfa</i>
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	<i>rfa</i>
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f & h; C.3.g)	<i>rfa</i>
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	<i>rfa</i>
-7	14. Final applications reviewed; assignment sheet updated; waiver letters sent (C.2.g, ES-204)	<i>rfa</i>
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee and authorization granted to give written exams (if applicable) (C.3.k)	<i>rfa</i>
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	<i>rfa</i>
<p>* Target dates 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 to examinations prepared by the NRC.</p>		

Facility: Turkey Point		Date of Examination:		
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 per ES-401.	ra		ra
	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.	ra		ra
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	ra		ra
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	ra		ra
2. S I M	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, and major transients.	ra		gh
	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; ensure 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 scenarios will not be repeated over successive days.	ra		gh
	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.	ra		gh
3. W / T	a. Verify that: (1) the outline(s) contain(s) the required number of control room and in-plant tasks, (2) no more than 30% of the test material is repeated from the last NRC examination, (3)* no tasks are duplicated from the applicants' audit test(s), and (4) no more than 80% of any operating test is taken directly from the licensee's exam banks.	ra		gh
	b. Verify that: (1) the tasks are distributed among the safety function groupings as specified in ES-301, (2) one task is conducted in a low-power or shutdown condition, (3) 40% of the tasks require the applicant to implement an alternate path procedure, (4) one in-plant task tests the applicant's response to an emergency or abnormal condition, and (5) the in-plant walk-through requires the applicant to enter the RCA.	ra		gh
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.	ra		gh
	d. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on successive days.	ra		gh
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 section.	ra		ra
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	ra		ra
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	ra		ra
	d. Check for duplication and overlap among exam sections.	ra		ra
	e. Check the entire exam for balance of coverage.	ra		ra
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	ra		ra
a. Author	Written (Steve Rose)  Printed Name / Signature Op test (Ron Aiello) 			Date 8/29/02
b. Facility Reviewer (*)	N/A			
c. NRC Chief Examiner (#)	Written (Ron Aiello) OpTest (George Hopper) 			9/04/02
d. NRC Supervisor	Mike Ernstes (Mee 9/4/02) 			9/4/02
Note:	* Not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.			

( RCO-20 initial license exam )

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of OCT 2002 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. 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.

792014

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 10/7+10/14 2002. 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. Glen Blinde	Facility Exam Reviewer/POC	[Signature]	06/13/02	[Signature]	16 OCT 02
2. Vicky McBryde	Admin Specialist	[Signature]	6/17/02	[Signature]	10/15/02
3. W.S. Miller	Facility Exam Reviewer	[Signature]	8/20/02	[Signature]	10-16-02
4. RICHARD JACOB	SIMULATOR ENGINEERING SUPERVISOR	[Signature]	8/26/02	[Signature]	10/16/02
5. Richard Bretton	OPSTRNG SUP / Facility Lead	[Signature]	9-4-02	[Signature]	10-15-02
6. ROBERT DOOLSON	SIM ENGINEER/EXAM SECURITY	[Signature]	9/5/02	[Signature]	10/16/02
7. Timothy G. Jones	Facility Exam Reviewer	[Signature]	9-16-02	[Signature]	10-17-02 (2)
8. CLIFF Hall	Facility Exam Reviewer	[Signature]	9-16-02	[Signature]	10-15-02
9. Lee Marshall	Facility Exam Reviewer	[Signature]	9/16/02	[Signature]	10/17/02
10. G.A LAUGHLIN	TRAINING MANAGER / EXAM REVIEW	[Signature]	9/25/02	[Signature]	10-15-02
11. B. Searns *	OPS SUPV.	[Signature]	10-8-02	[Signature]	10-11-02
12. D. Lettsome	STA	[Signature]	10/8/02	[Signature]	10/16/02
13. SPALLER	SURROGATE GOP	[Signature]	10/6/2002	[Signature]	10/15/02
14. Ken White	EXAM PROCTOR	[Signature]	10/8/02	[Signature]	10/15/02
15. MARIA LACAL	SIMULATOR OBS / OPS MGR	[Signature]	10/8/02	[Signature]	10/15/02
16. Jack Noonan	STA	[Signature]	10/10/02	[Signature]	10/16/02

NOTES: \* operating exam only.

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of <sup>10/7+</sup> 10/14/02 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. 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 - Specific to JPM performed on 10-08-02 (Align emergency cooling to Charging Pumps).

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 10/7+10/14/02. 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)	DATENOTE
1.	Michael D. McQuinn	HPSS	<i>[Signature]</i>	10-8-02	<i>[Signature]</i>	10/16/02
2.	Darryl Wilkerson	HP	<i>[Signature]</i>	10/8/02	<i>[Signature]</i>	10/8/02
3.	Larry Love	HP	<i>[Signature]</i>	10-8-02	<i>[Signature]</i>	10-8-02
4.	CRAIG S. KINNE	HP SUPER	<i>[Signature]</i>	10-8-02	<i>[Signature]</i>	10/17/02
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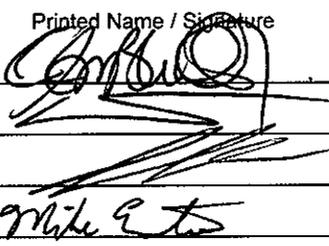
Facility: <b>Turkey Point</b>		Date of Examination: <u>10/07/02</u>
Examination Level (circle one): <b>RO</b> / SRO		Operating Test Number: <u>1</u>
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	JPM	Verify Axial Flux Difference Compliance with ERDADS Inoperable (*-ONOP-059.4 & *-OSP-201.1 Att 8)
	JPM (Facility Bank)	Perform RCS Leak Rate Calculation Using Manual Method (JPM#R0410362)
A.2	JPM	Write a Boric Acid Pump Discharge Valve Clearance (RO)
A.3	JPM	Calculate Dose During Emergency Operations
A.4	JPM (Modified)	Make Emergency Notification (RO)

Facility: **Turkey Point**      Date of Examination: 10/07/02  
 Examination Level (circle one): RO / **SRO**      Operating Test Number: 1

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	JPM	Verify Axial Flux Difference Compliance with ERDADS Inoperable (*-ONOP-059.4 & *-OSP-201.1 Att 8)
	JPM (Facility Bank)	Perform RCS Leak Rate Calculation Using Manual Method (JPM#R0410362)
A.2	JPM	Review a Boric Acid Pump Discharge Valve Clearance
A.3	JPM	Calculate Dose During Emergency Operations
A.4	JPM (Facility Bank)	Classify Event and Make Protective Action Recommendations

Facility: <u>Turkey Point</u> Exam Level (circle one): <u>RO / SRO(I) / SRO(U)</u>	Date of Examination: <u>10/07/02</u> Operating Test No.: <u>1</u>	
B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. <b><i>Sys. 064/JPM, Perform EDG Normal Start Test. (Build from bank R0230060, Perform the Emergency Diesel Generator Operability Test. Includes voltage regulator malfunction at end of JPM.)</i></b>	(M) (A) (S)	6
b. <b><i>Sys.015/JPM #R0590030, Adjust High Flux at Shutdown Alarm (N-31)</i></b>	(D) (S) (L)	7
c. Sys. 061/JPM #A0750190, Perform the AFW Flow Control Valve Operability Test.	(M) (S) (L)	4S
d. <b><i>Sys. 007/JPM, Drain the Pressurizer Relief Tank. Lift PORV during draining. Fail PORV, block valve yielding auto reactor trip.</i></b>	(N) (A) (S)	5
e. APE 068/JPM, Control Room Evacuation as Unit 3 RCO ( Fire in Cable Spreading Room). Fire damage causes spurious train A equipment actuation.	(N) (S)	8
f. Sys. 006/JPM, Restore Accumulator Pressure and Level	(M) (S)	3
g. Sys. 003/JPM, Perform a Dropped Rod Recovery. Drop a second control rod thus requiring a reactor trip. (Use R0280160, Recover Misaligned Control Rod as a Guide)	(M) (A) (S)	1
B.2 Facility Walk-Through		
a. <b><i>Sys. 068/JPM #S0610390, Pump Waste Holdup Tank Contents to Unit 4 Containment</i></b>	(D) (R)	9
b. Sys. 062/JPM #N0030180, Transfer 4P07 Instrument bus from CVT to Inverter (Internal Transfer)	(D)	6
c. <b><i>Sys. 008/JPM #S0300090, Align Emergency Cooling Water to the 4A Charging Pump</i></b>	(D) (R)	8
* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA		

Note: JPM's in **BOLD** and *Italics* are the five JPM's the SRO(U) applicants receive. RO and SRO(I) applicants receive all ten JPM's.

Facility: Turkey Point		Date of Examination: October 7-11, 02		Operating Test Number: 1	
<b>1. GENERAL CRITERIA</b>			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).	EJB	rb ms	ra	
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	EJB	rb ms	ra	
c.	The operating test shall not duplicate items from the applicants' audit test(s)(see Section D.1.a).	EJB	rb ms	ra	
d.	Overlap with the written examination and between operating test categories is within acceptable limits.	EJB	rb ms	ra	
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	EJB	rb ms	ra	
<b>2. WALK-THROUGH (CATEGORY A &amp; B) CRITERIA</b>					
a.	Each JPM includes the following, as applicable: <ul style="list-style-type: none"> <li>· initial conditions</li> <li>· initiating cues</li> <li>· references and tools, including associated procedures</li> <li>· validated time limits (average time allowed for completion) and specific designation if deemed to be time critical by the facility licensee</li> <li>· specific performance criteria that include: <ul style="list-style-type: none"> <li>- detailed expected actions with exact criteria and nomenclature</li> <li>- system response and other examiner cues</li> <li>- statements describing important observations to be made by the applicant</li> <li>- criteria for successful completion of the task</li> <li>- identification of critical steps and their associated performance standards</li> <li>- restrictions on the sequence of steps, if applicable</li> </ul> </li> </ul>	EJB	rb ms	ra	
b.	The prescribed questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301.	EJB	rb ms	ra	
c.	Repetition from operating tests used during the previous licensing examination is within acceptable limits (30% for the walk-through) and do not compromise test integrity.	EJB	rb ms	ra	
d.	At least 20 percent of the JPMs on each test are new or significantly modified.	EJB	rb ms	ra	
<b>3. SIMULATOR (CATEGORY C) CRITERIA</b>					
a.	The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4 and a copy is attached.	EJB	rb ms	ra	
		Printed Name / Signature		Date	
a. Author	Glen Blende			9/9/02	
b. Facility Reviewer(*)	Richard Bretten			9/9/02	
c. NRC Chief Examiner (*)	Ron Aiello			10/01/02	
d. NRC Supervisor (*)	Mike Ernstes			10/1/02	
(*) The facility signature is not applicable for NRC-developed tests; two independent NRC reviews are required.					

Facility: Turkey Point		Date of Exam: October 7-11, 02		Scenario Numbers: 1 / 2 /		Operating Test No.: 1	
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.	ms	rb	ra			
2.	The scenarios consist mostly of related events.	ms	rb	ra			
3.	Each event description consists of · 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)	ms	rb	ra			
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.	ms	rb	ra			
5.	The events are valid with regard to physics and thermodynamics.	ms	rb	ra			
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	ms	rb	ra			
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.	ms	rb	ra			
8.	The simulator modeling is not altered.	ms	rb	ra			
9.	The scenarios have been validated. Any open simulator performance deficiencies have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.	ms	rb	ra			
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.4 of ES-301.	ms	rb	ra			
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	ms	rb	ra			
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).	ms	rb	ra			
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	ms	rb	ra			
TARGET QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.4.D)		Actual Attributes					
1.	Total malfunctions (5-8)	8	/ 8 / 7	ms	rb	ra	
2.	Malfunctions after EOP entry (1-2)	2	/ 1 / 2	ms	rb	ra	
3.	Abnormal events (2-4)	5	/ 6 / 4	ms	rb	ra	
4.	Major transients (1-2)	1	/ 1 / 1	ms	rb	ra	
5.	EOPs entered/requiring substantive actions (1-2)	2	/ 1 / 1	ms	rb	ra	
6.	EOP contingencies requiring substantive actions (0-2)	2	/ 0 / 0	ms	rb	ra	
7.	Critical tasks (2-3)	2	/ 4 / 2	ms	rb	ra	

OPERATING TEST NO.:

Applicant Type	Evolution Type	Minimum Number	Scenario Number		
			1	2	3
RO	Reactivity	1	event 1	event 4	event 5
	Normal	1	event 3 (eco)	event 1	event 1 (BOP)
	Instrument	2	event 5/8 (BOP) 2/3 (eco)	event 2/5 (BOP) 1 (eco)	event 2/8 (BOP) 2 3/8 (eco) 4
	Component	2	event 6/8 (BOP) 4/8 (eco)	event 6/8 (BOP) 4/8 (eco)	event 3/7 (BOP) 4/8 (eco)
	Major	1	event 7	event 7	event 6

As RO	Reactivity	1	event 1	event 4	event 5
	Normal	0	event 3 (eco)	event 1	event 1 (eco)
	Instrument	1	event 5 (BOP) 2/3 (eco)	event 2/5 (BOP) 1 (eco)	event 2/8 (BOP) 2 3/8 (eco) 4
	Component	1	event 6/8 (BOP) 4/8 (eco)	event 6/8 (BOP) 4/8 (eco)	event 3/7 (BOP) 4/8 (eco)
	Major	1	event 7	event 7	event 6
SRO-I	Reactivity	0	event 1	event 4	event 5
	Normal	1	event 3	event 1	event 1
	Instrument	1	events 2/3/5	events 1/2/5	events 2/8/4
	Component	1	events 4/6/8	events 4/6/8	events 3/4/7/8
	Major	1	event 7	event 7	event 6

SRO-U	Reactivity	0	event 1	event 4	event 5
	Normal	1	event 3	event 1	event 1
	Instrument	1	events 2/3/5	events 1/2/5	events 2/4
	Component	1	events 4/6/8	events 4/6/8	events 3/4/7/8
	Major	1	event 7	event 7	event 6

- Instructions: (1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.  
 (2) Reactivity manipulations may be conducted under normal or controlled abnormal conditions (refer to Section D.4.d) but must be significant per Section C.2.a of Appendix D.

Facility developer:  
 Author:

 09/06/02  
 10/10/02

Chief Examiner:

Competencies	ANPS Applicant #1 RO/SRO-I/SRO-U			RO Applicant #2 RO/SRO-I/SRO-U			BoP Applicant #3 RO/SRO-I/SRO-U		
	SCENARIO			SCENARIO			SCENARIO		
	1	2	3	1	2	3	1	2	3
Understand and Interpret Annunciators and Alarms	2,3,4,5 6,7,8,9	1,2,3,4 6,7,8,9	2,3,4,5 6,7,8	2,3,4,7 8,9	1,4,7,8	3,4,5,6 7,8	5,6,7,8 9	1,2,3,4 6,7,8,9	2,3,5,6 7,8
Diagnose Events and Conditions	2,3,4,5 6,7,8,9	1,2,3,4 5,6,7,8	2,3,4,5 6,7,8	2,3,4,7 8,9	1,4,7,8	3,4,5,6 7,8	5,6,7,8 9	1,2,3,4 5,6,7,8	2,3,5,6 7,8,9
Understand Plant and System Response	1,2,3,4 5,6,7,8 9	1,2,3,4 5,6,7,8 9,10	1,2,3,4 5,6,7,8 9	1,2,3,4 7,8,9	1,4,5,6 7,8,10	3,4,5,6 7,8,9	1,5,6,7 8,9	1,2,3,4 5,6,7,8 9,10	1,2,3,5 6,7,8,9
Comply With and Use Procedures (1)	1,2,3,4 5,6,8,9	1,2,3,4 6,7,8,9 10	1,2,3,4 5,6,8,9	1,2,3,4 8,9	1,4,6,7 8,10	3,4,5,6 7,8,9	1,5,6,7 9	1,2,3,4 6,7,8,9 10	1,2,3,5 7,8,9
Operate Control Boards (2)	N/A			1,2,3,4 7,8,9	1,4,5,6 7,8,10	3,4,5,6 7,8,9	1,5,6,7 8,9	1,2,4,5 6,7,8,9 10	1,2,3,5 7,8,9
Communicate and Interact With the Crew	1,2,3,4 5,6,7,8 9	1,2,3,4 5,6,7,8 9,10	1,2,3,4 5,6,7,8 9	1,2,3,4 7,8,9	1,4,5,6 7,8,10	2,3,4,5 6,7,8,9	1,5,6,7 8,9	1,2,3,4 5,6,7,8 9,10	1,2,3,5 7,8,9
Demonstrate Supervisory Ability (3)	1,2,3,4 5,6,7,8 9	1,2,3,4 5,6,7,8 9,10	1,2,3,4 5,6,7,8 9	N/A					
Comply With and Use Tech. Specs. (3)	3,4	1,2,3,4	3,5	N/A					

Notes:

(1) Includes Technical Specification compliance for an RO.  
 (2) Optional for an SRO-U.  
 (3) Only applicable to SROs.

Instructions:

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

Facility developer  
 Authority

*[Signature]* 09/06/02

Chief Examiner:

*[Signature]* 12/01/02

Facility: <u>TURKEY POINT</u>		Date of Exam: <u>10/15/02</u>		Exam Level: <u>RO/SRO</u>		
Item Description	Initial					
	a	b*	c*			
1. Questions and answers technically accurate and applicable to facility	<input checked="" type="checkbox"/>	<u>N/A</u>	<input checked="" type="checkbox"/>			
2. a. NRC K/As referenced for all questions b. Facility learning objectives referenced as available	<input checked="" type="checkbox"/>	<u>N/A</u>	<input checked="" type="checkbox"/>			
3. RO/SRO overlap is no more than 75 percent, and SRO questions are appropriate per Section D.2.d of ES-401	<input checked="" type="checkbox"/>	<u>N/A</u>	<input checked="" type="checkbox"/>			
1. Question selection and duplication from the last two NRC licensing exams appears consistent with a systematic sampling process	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
5. Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: <input 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 type="checkbox"/> the licensee certifies that there is no duplication; or <input type="checkbox"/> other (explain)	<u>N/A</u>	<u>N/A</u>	<input checked="" type="checkbox"/>			
6. Bank use meets limits (no more than 75 percent from the bank at least 10 percent new, and the rest modified); enter the actual question distribution at right	Bank	Modified	New	<input checked="" type="checkbox"/>	<u>N/A</u>	<input checked="" type="checkbox"/>
	46/41	19/23	35/36			
7. Between 50 and 60 percent of the questions on the exam (including 10 new questions) are written at the comprehension/analysis level; enter the actual question distribution at right	Memory		C/A	<input checked="" type="checkbox"/>	<u>N/A</u>	<input checked="" type="checkbox"/>
	45/46		55/54			
8. References/handouts provided do not give away answers	<input checked="" type="checkbox"/>	<u>N/A</u>	<input checked="" type="checkbox"/>			
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	<input checked="" type="checkbox"/>	<u>N/A</u>	<input checked="" type="checkbox"/>			
10. Question psychometric quality and format meet ES, Appendix B, guidelines	<input checked="" type="checkbox"/>	<u>N/A</u>	<input checked="" type="checkbox"/>			
11. The exam contains 100, one-point, multiple choice items; the total is correct and agrees with value on cover sheet	<input checked="" type="checkbox"/>	<u>N/A</u>	<input checked="" type="checkbox"/>			
a. Author			Printed Name / Signature		Date	
Steven D. Rose/			<u>[Signature]</u>		<u>8/29/02</u>	
b. Facility Reviewer (*)			<u>N/A</u>			
c. NRC Chief Examiner (#)			<u>[Signature]</u>		<u>10/13/02</u>	
d. NRC Regional Supervisor			<u>[Signature]</u>		<u>10/3/02</u>	
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.						

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only		

Instructions

[Appendix B for additional information regarding each of the following concepts.]

- Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
- Enter the level of difficulty (LOD) of each question using a 1 - 5 (easy - difficult) rating scale (questions in the 2 - 4 range are acceptable).
- Check the appropriate box if a psychometric flaw is identified:
  - The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
  - The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).
  - The answer choices are a collection of unrelated true/false statements.
  - More than one distractor is not credible.
  - One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).
- Check the appropriate box if a job content error is identified:
  - The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).
  - The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).
  - The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
  - The question requires reverse logic or application compared to the job requirements.
- Check questions that are sampled for conformance with the approved K/A and those that are designated SRO-only (K/A and license level mismatches are unacceptable).
- Based on the reviewer's judgment, is the question as written (U)nacceptable (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
- At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			
<b>RO/SRO COMBINED QUESTIONS</b>																
1	H	3													S	R 001AG2.4.11 2

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
2	H	3												S	R 001K4.20 2
3	H	3												S	R 003A2.02 1 Added "and close" to two responses to make them more in line with plant operations.  <b>CE (rfa) Accept</b>
4	F	2												S	R 003AK1.02 1
5	H	3												S	R 004K1.10 1
6	H	3												E	R 004K3.08 1 Question responses were incorrect as written. Letdown isolates and charging and seal injection flows increase due to charging pump (PD Pump) speed increase. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
7	H	3												S	R 005AA1.05 1 Minor word changes to be more in line with plant terminology.  <b>CE (rfa) Accept</b>
8	H	3												S	R 006K4.14 2
9	H	2												S	R 007EK3.01 1
10	H	3												U	R 008AK2.01 1 Question has been rewritten. The original version was based on operator knowledge of the power supply to a specific MOV. The new version is more operationally oriented. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
11	F	2												S	R 009EA1.12 1

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
12	H	4												S	R 010K3.03 1 Change in stem clarifies the malfunction is associated with PC-4-444J vs. other control components. Additionally the actions stated in the stem were not in accordance with applicable ONOP-041.5.  <b>CE (rfa) Accept</b>
13	H	3												U	R 011A3.03 2 Replaced original question. No correct answer and too close to common question # 6 (KA 004K3.08).  NOTE: The instrument air system failure has affected the LCS by its impact on charging and letdown. Charging and letdown are integral parts of the LCS. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
14	F	2												S	R 011EK3.05 1 Minor change to emphasize the initial injection path which is in keeping with the intent of the question.  <b>CE (rfa) Accept</b>
15	F	2												S	R 012K5.01 1 Minor wording changes to be more in line with plant terminology.  <b>CE (rfa) Accept</b>
16	H	4												S	R 013K5.01 1 Revised to have the applicable Tech Spec be provided based on the complexity of the question. Note that providing the Tech Spec does not create a direct lookup because the applicant has to review the Tech Spec LCO statement and the accompanying foot notes and answering the question correctly is further contingent upon realizing the train/EDG dependency for which HHSI pump to choose.  <b>CE (rfa) Accept</b>
17	H	3												S	R 014K4.03 1

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
18	H	4												E	R 015/017AA1.02 1 As written, the answer was not correct. Revised stem to make the answer correct per the applicable ONOP. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
19	H	3												E	R 015/017AK1.01 1 Question was confusing as written. Rewrote question to make it read better.  <b>CE (rfa) Accept</b>
20	H	4												S	R 015K6.01 1
21	F	2												S	R 016A4.02 1
22	H	3												S	R 017K6.01 1 Second bullet was removed because it was redundant. Deleted RVLMS statement because with level being shown on RVLMS, the CET temps could not be superheated.  <b>CE (rfa) Accept</b>
23	F	2												S	R 022A1.03 1
24	H	4												S	R 022AA2.04 1
25	F	3												E	R 022K1.01 1 Responses revised to reflect PTN terminology and the fact that CRDM Coolers do <u>not</u> trip on Phase A. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
26	H	3												S	R 025AK2.02 1

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only		
27	F	3												E	R 026A4.05 1 Changed situation to a LOCA. As Written two distractors (B & D) could be construed as correct. Revised wording to ensure B & D are incorrect. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
28	H	4												S	R 027AA2.17 1
29	H	3												E	R 027AK2.03 1 Revised responses A and C to reflect controller output. Correct answer is "A". Correction made. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
30	F	3												U	R 028A1.01 1 Replaced question under the same KA. PTN no longer has provisions for use of a hydrogen recombiner. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
31	H	3												S	R 029AG2.4.34 1
32	F	4													R 029K3.02 1 Revised the responses to be more reflective of the procedure. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
33	H	4												E	R 032AA1.01 1 A Tech Spec. Reference will need to be made available to the applicant. This Question is designed to be open reference. It tests an Action Statement that is > 1 hour AOT.  <b>CE (rfa) Accept</b>
34	F	3												S	R 035A4.01 1

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cue s	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
															S	036AA1.02 1
35	H	4													S	
36	H	4													E	R 038EG2.1.7 1 Revised because D. response was correct as written because there was no endpoint.  CE (rfa) Accept
37	F	3													U	R 039K5.05 2 Rewrote question due to distractor ambiguity. Changes to Distractor Analysis.  CE (rfa) Accept
38	H	3													E	R 045A1.05 1 Added the reactor does not trip to the stem. If the reactor trips immediately and SDTC actuates, response C. could be argued as correct. Changes to Distractor Analysis.  CE (rfa) Accept
39	F	2													S	R 051AG2.1.08 1
40	H	3													S	055EK3.02 2
41	H	3													S	R 055K3.01 1
42	H	3													S	R 057AA1.01 1 Revision based on the stem describing a condition that would not exist during the transfer from spare to normal inverter.  CE (rfa) Accept
43	H	4													S	061AK1.01 1
44	H	4													S	R 061K6.01 1 Changes to Distractor Analysis.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
45	H	4												U	R 062K2.01 2 The question assumes the unit is operating without a battery powering the DC Bus. The 3B Battery would be immediately replaced by the spare battery assuring the DC bus is always powered by a battery. Please see the replacement question that satisfies the KA & cognitive level. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
46	F	3												E	R 063K2.01 1 Corrected DC Bus titles.  <b>CE (rfa) Accept</b>
47	F	3												S	064K2.02 1
48	F	3												E	R 067AK1.01 1 Could not locate a reference to support original question. Revised question per ONOP-016.10. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
49	F	2													R 068A3.02 1 The question has been replaced for two reasons. 1) As written, Distractor A was correct. 2) The question is double jeopardy with similar question, # 66 (common). The replacement question matches the KA and cognitive level. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
50	H	3												S	R 068AA1.31 1 Minor change to match plant terminology.  <b>CE (rfa) Accept</b>
51	H	3												S	R 069AK2.03 1 Reference needed based on answer derived from Tech Spec <u>and</u> a TSPS.
52	H	3												S	R 072K3.01 1

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
53	H	3												S	073K1.01 1
54	H	4												S	R 074EK2.03 1
55	H	4												S	R 075A2.01 1 Revised waterfall heights to get 3B1 value off of the exact value that requires reactor trip.  <b>CE (rfa) Accept</b>
56	F													S	R 076AA2.01 1 Added word "first" to the stem. Otherwise responses A. and D. can be argued as correct. Minor wording change to be consistent with plant terminology.  <b>CE (rfa) Accept</b>
57	H	3												S	R 076K3.05 1 Modified stem. The situation is not related to ONOP-050. This is an inoperability issue not a loss of RHR issue.  <b>CE (rfa) Accept</b>
58	H	4												S	R 078A4.01 1 Made human factor improvements to make question clearer and more easily read.  <b>CE (rfa) Accept</b>
59	F	2												S	R 103A3.01 1 Removed word "complete" to clarify the stem  <b>CE (rfa) Accept</b>
60	F	3												S	R G2.1.22 2 Revised question to make it more operationally oriented and to more closely fit the KA. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
61	H	4												S	R G2.1.29 1 Added Distractor Analysis.  <b>CE (rfa) Accept</b>
62	H	4												S	R G2.1.32 1 Revised stem. Otherwise applicant would be required to know how many detectors exist in Containment. Added Distractor Analysis.  <b>CE (rfa) Accept</b>
63	H	3												S	G2.2.01 2
64	H	4												U	R G2.2.11 1 Replaced question. This question was technically correct. However, with the exception of the NPS, Operations has minimal involvement with TSAs and operators do not sponsor TSAs. As written, this was an SRO only question. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
65	H	3												S	G2.3.01 1
66	H	4												E	R G2.3.11 1 Two responses revised due to two right answers on original question. Response D. was also correct. When the Circ. Water Pump trips, the discharge MOV closes and the release is isolated via the seal well solenoids per EWD. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
67	H	4												S	G2.4.09 1
68	H	3												S	G2.4.20 1
69	H	4												S	R W/E02EA1.1 1
70	F	3												S	R W/E03EK3.1 1

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
71	H	4												E	R W/E09EG2.4.48 1 Added additional information in the stem to make response D the only correct answer. Revised responses to improve symmetry and readability. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
72	H	3												S	R W/E11EG2.4.18 1 Added one word to Response D to improve distractor symmetry.  <b>CE (rfa) Accept</b>
73	H	3												E	R W/E12EK1.3 1 Could not find a firm basis for B. as the correct answer. Revised question to make cooldown rate > 100°/hr to ensure only one correct answer. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
74	H	4												S	R W/E13EA2.1 1 Minor revisions to incorporate plant specific terminology.  <b>CE (rfa) Accept</b>
75	F	2												S	R W/E15EK3.1 1 Minor revisions to incorporate plant specific terminology.  <b>CE (rfa) Accept</b>
SRO ONLY QUESTIONS															
1	H	3												S	R 001A2.12 (S) 1 Added Reference to be provided and clarified two responses to be in accordance with GOP-301 guidance (NPS permission).  <b>CE (rfa) Accept</b>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
2	H	4												S	R 002A2.04 (S) 2 Revised response to be more in line with actual practice per ONOP-050. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
3	H	4												E	R 003G2.1.20 (S) 1 Multiple correct answers as written because the stem does not define where the operators are in the procedure. Revised all responses to remove subjectivity regarding when procedure transition should be made and which actions may be performed early. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
4	H	4												S	R 005A2.04 (S) 2 Added temperature rising to allow exit from ONOP-050. Removed hot leg injection from answer. Attachment 2 does not dictate hot leg injection (original path development was incorrect) .  <b>CE (rfa) Accept</b>
5	H	3												S	R 013G2.4.9 (S) 1
6	F	3												S	R 024AA2.02 1 Added valve titles.  <b>CE (rfa) Accept</b>
7	H	4												S	R 026AA2.02 (S) 1 Deleted "CCW head tank level slowly decreasing." because the stem bullet was ambiguous  <b>CE (rfa) Accept</b>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
8	F	3												S	R 033A2.03 (S) 1 Added "initial" because D. could be a correct action taken subsequently. Added "potential" because until condition is verified valid, there may be no impact.  <b>CE (rfa) Accept</b>
9	H	4												S	R 037AA2.16 1
10	F	2												S	051AA2.02 1
11	H	3												E	R 054AA2.01 1 Answer not correct as written. Only the affected S/G valve fast closes. Revised all responses for consistency. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
12	H	4												S	R 058AG2.1.12 1 This question is designed to be open reference. Operators are not required to memorize Action Statements > 1 hour. Modified question to increase plausibility of distractors. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
13	H	4												E	R 062AA2.04 1 As written, there is no time to implement any actions except for prepare for the trip (2 minutes). Argument can be made that responses B, C, and D are correct.. Revised to more closely satisfy the KA. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
14	F	2												S	R 071G2.4.44 (S) 1
15	F	2												S	R G2.1.06 1 Rearranged the stem to improve readability.  <b>CE (rfa) Accept</b>

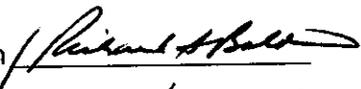
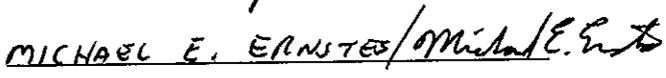
Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
16	H	2												S	R G2.1.09 2 Revised Response C. As written it is a subset of D and is therefore not wrong. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
17	H	4												S	G2.1.12 (S) 1
18	H	3												S	R G2.2.12 (S) 1
19	H	3												S	R G2.3.10 (S) 2 Tech Spec. reference needed for this Tech Spec involving Action Statement > 1 hour. Revised stem to include E-bar and gross activity value to improve plausibility of distractors. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
20	H	4												S	R G2.4.08 1
21	H	3												S	R G2.4.16 (S) 1
22	H	5*												S	R G2.4.41 1 * Reference required for this very difficult classification. Providing a reference would lower the difficulty level to a 4. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
23	F	2												S	R W/E04EA2.1 1 Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
24	H	3												S	R W/E05EA2.1 1

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
25	H	3												S	R W/E08EA2.1 1
RO ONLY QUESTIONS															
1	H	4												S	001A2.10 1
2	H	4												S	002A.04 (R) 1
3	F	3												S	R 003G2.1.20(R) 1 Minor word changes to improve readability. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
4	H	4												U	R 005A2.02 1 This is the same question as #67 on the common exam. See replacement that satisfies the KA and cognitive level. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
5	H	4												S	R 005A2.04 (R) 1
6	H	1												U	R 013G2.4.9 (R) 2 This question was too easy as written. See the revision that meets the required KA and cognitive level. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
7	H	3												S	R 015A3.03 2 Middle of the IR is too vague. 1% on the power range is equivalent to 2 decades prompt drop. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
8	H	2												S	026AA2.02 (R) 1

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
9	F	2												S	R 033A2.03 (R) 2 Changed "correct" to "initial" because A. could be a correct action taken subsequently.  <b>CE (rfa) Accept</b>
10	F	4												S	R 033G2.2.3 1 Minor wording changes based on plant specific terminology.  <b>CE (rfa) Accept</b>
11	H	4												E	R 056K1.03 1 No correct answer as written. Revised to give correct answer. Refer to Logic diagram, Sheet 25. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
12	F	4												S	R 058AA2.03 1 Changed B distractor - Operators are not expected to know whether A or B Train MSIV solenoids deenergize upon a loss of 3D23. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
13	F	2												S	R 059A1.03 2 Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
14	H	4												S	R 059A4.08 1 Replaced B. distractor with one that is more plausible. CV-2900 does not have a diaphragm. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
15	H	4												U	R 061K4.02 2 This question tests the same knowledge as Common Q#69. Please see the new question testing the same KA at the same cognitive level. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
16	F	3												S	R 068A2.02 1 The liquid release procedure does not refer to the samples as "grab" samples.  <b>CE (rfa) Accept</b>
17	H	3												S	R 071G2.4.10 (R) 2
18	H*	3												E	R 071K4.05 1 Revised question. Operators are not expected to know the power supplies to these non-safety related plant components. * Revision is at the Fundamental level. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
19	H	4												S	R 076K3.01 1
20	H	3												S	R 086A4.06 1 Revised two distractors. Operators are not expected to memorize local panel numbers (286 vs 288).  <b>CE (rfa) Accept</b>
21	F	3												S	R G2.1.12 (R) 1 Minor word changes to improve readability.  <b>CE (rfa) Accept</b>
22	H	4												S	R G2.2.12 (R) 1 Identified the References to be provided.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
23	H	5												U	R G2.3.10 (R) 1 Revised Q to remove DAC component. Operators are not responsible for DAC calculations. See revised question of equal cognitive level and appropriate difficulty level . New difficulty level = 4. Changes to Distractor Analysis.  <b>CE (rfa) Accept</b>
24	F	3												S	G.2.4.16 (R) 1
25	F	2												S	R WE04EA2.2 1

Facility:	Turkey Point	Date of Exam:	10/15/02	Exam Level: <b>RO/SRO</b>		
Item Description				Initials		
				a	b	c
1.	Clean answer sheets copied before grading			rfa		rsb
2.	Answer key changes and question deletions justified and documented			N/A		N/A
3.	Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)			rfa		rsb
4.	Grading for all borderline cases (80% +/- 2%) reviewed in detail			N/A		N/A
5.	All other failing examinations checked to ensure that grades are justified			N/A		N/A
6.	Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants			rfa		rsb
Printed Name / Signature				Date		
a. Grader	Ronald F. Aiello 			10/30/02		
b. Facility Reviewer(*)	N/A			N/A		
c. NRC Chief Examiner (*)	Richard S. Baldwin 			10/30/02		
d. NRC Supervisor (*)	MICHAEL E. ERNSTES 			11/4/02		
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.						

Turkey Point Nuclear Station	
Task Description	Date Complete
1. Facility written exam comments or graded exams received and verified complete	10/30/02
2. Facility written exam comments reviewed and incorporated and NRC grading completed, if necessary	11/04/02
3. Operating tests graded by NRC examiners	10/30/02
4. NRC Chief examiner review of written exam and operating test grading completed	10/30/02
5. Responsible supervisor review completed	11/04/02
6. Management (licensing official) review completed	11/04/02
7. License and denial letters mailed	11/06/02
8. Facility notified of results	11/08/02
9. Examination report issued (refer to NRC MC 0610)	11/07/02
10. Reference material returned after final resolution of any appeals	N/A

Facility: Turkey Point			Date of Exam: 10/14/2002						Exam Level: SRO				
Tier	Group	K/A Category Points											Point Total
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A2	A 3	A 4	G *	
1. Emergency & Abnormal Plant Evolutions	1	4	2	3				4	7			4	24
	2	1	3	2				2	6			2	16
	3			1				1	1				3
	Tier Totals	5	5	6				7	14			6	43
2. Plant Systems	1	2		2	2	1	2	1	2	2	2	3	19
	2	1	2	3	1	2		1	3	2	2		17
	3			1				1	1		1		4
	Tier Totals	3	2	6	3	3	2	3	6	4	5	3	40
3. Generic Knowledge and Abilities					Cat 1		Cat 2		Cat 3		Cat 4		17
					6		3		3		5		
<p>Note: 1. Ensure that at least two topics from every K/A category are sampled within each tier (i.e., the "Tier Totals" in each K/A category shall not be less than two).</p> <p>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 <math>\pm 1</math> from that specified in the table based on NRC revisions. The final exam must total 100 points.</p> <p>3. Select topics from many systems; avoid selecting more than two or three K/A topics from a given system unless they relate to plant-specific priorities.</p> <p>4. Systems/evolutions within each group are identified on the associated outline.</p> <p>5. The shaded areas are not applicable to the category/tier.</p> <p>6.* The generic K/As in Tiers 1 and 2 shall be selected from Section 2 of the K/A Catalog, but the topics must be relevant to the applicable evolution or system.</p> <p>7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings for the SRO license level, and the point totals for each system and category. K/As below 2.5 should be justified on the basis of plant-specific priorities. Enter the tier totals for each category in the table above.</p>													

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000001 Continuous Rod Withdrawal / 1						4.12	AG2.4.12 General operating crew responsibilities during emergency operations	3.4/3.9	
000003 Dropped Control Rod / 1	02						AK1.02 Effects of turbine-reactor power mismatch on rod control	3.1/3.4	
000005 Inoperable/Stuck Control Rod / 1				05			AA1.05 RPI	3.4/3.4	
000011 Large Break LOCA / 3			05				EK3.05 Injection into cold leg	4.0/4.1	
W/E04 LOCA Outside Containment / 3					2		EA2.2 Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments	3.6/4.2	S/R
W/E01 & E02 Rediagnosis & SI Termination / 3				1			EA1.1 Components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features	4.0/3.9	
000015/17 RCP Malfunctions / 4	01						AK1.01 Natural circulation in a nuclear power plant	4.4/4.6	
000015/17 RCP Malfunctions / 4				02			AA1.02 RCP oil reservoir level and alarm indicators	2.8/2.7	
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4						4.49	EG2.4.49 Perform without reference to procedures those actions that require immediate operation of system components and controls	4.0/4.0	
000024 Emergency Boration / 1					02		AA2.02 When use of manual boration valve is needed	3.9/4.4	SRO
000026 Loss of Component Cooling Water / 8					02		AA2.02 The cause of possible CCW loss	2.9/3.6	S/R
000029 Anticipated Transient w/o Scram / 1						4.34	AG2.4.34 Knowledge of RO tasks performed outside the main control room during emergency operations including system geography and system implications	3.8/3.6	
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4	3						EK1.3 Annunciators and conditions indicating signals, and remedial actions associated with the (Uncontrolled Depressurization of all Steam Generators)	3.4/3.7	
CE/A11; W/E08 RCS Overcooling - PTS / 4					1		EA2.1 Facility conditions and selection of appropriate procedures during abnormal and emergency operations	3.4/4.2	SRO
000051 Loss of Condenser Vacuum / 4						1.08	AG2.1.8 Coordinate personnel activities outside the control room	3.8/3.6	
000055 Station Blackout / 6			02				EK3.02 Actions contained in EOP for loss of offsite and onsite power	4.3/4.6	
000057 Loss of Vital AC Elec. Inst. Bus / 6			01				EK3.01 Actions contained in EOP for loss of vital ac electrical instrument bus	4.1/4.4	
000059 Accidental Liquid RadWaste Rel. / 9					03		AA2.03 Failure modes, their symptoms, and the causes of misleading indications on a radioactive-liquid indication	3.1/3.6	SRO
000062 Loss of Nuclear Service Water / 4					04		AA2.04 The normal values and upper limits for the temperatures of the components cooled by SWS	2.5/2.9	SRO
000067 Plant Fire On-site / 9	01						AK1.01 Fire classifications, by type	2.9/3.9	
000068 (BW/A06) Control Room Evac. / 8				31			AA1.31 ED/G	3.9/4.0	
000069 (W/E14) Loss of CTMT Integrity / 5		03					AK2.03 Personnel access hatch and emergency access hatch	2.8/2.9	

ES-401

PWR SRO Examination Outline  
 Emergency and Abnormal Plant Evolutions - Tier 1/Group 1

Form ES-401-3 (R8, S1)

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000074 (W/E06&E07) Inad. Core Cooling / 4		06					AK2.06 Turbine bypass and atmospheric dump valves	3.5/3.6	
BW/E03 Inadequate Subcooling Margin / 4									
000076 High Reactor Coolant Activity / 9					04		AA2.04 Process effluent radiation chart recorder	2.6/3.0	
BW/A02&A03 Loss of NNI-X/Y / 7									
<b>K/A Category Totals:</b>	<b>4</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>7</b>	<b>4</b>	<b>Group Point Total:</b>		<b>24</b>

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000007 (BW/E02&E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1			01				EK3.01 Actions contained in EOP for reactor trip	4.0/4.6	
BW/A01 Plant Runback / 1									
BW/A04 Turbine Trip / 4									
000008 Pressurizer Vapor Space Accident / 3		01					AK2.01 Valves	2.7/2.7	
000009 Small Break LOCA / 3				12			EA1.12 RPS	4.2/4.2	
BW/E08; W/E03 LOCA Cooldown - Depress. / 4			1				EK3.1 Facility operating characteristics during transient conditions, including coolant chemistry and the effects of temperature, pressure, and reactivity changes and operating limitations and reasons for these operating characteristics	3.3/3.7	
W/E11 Loss of Emergency Coolant Recirc. / 4						2.11	EG2.2.11 Process for controlling temperature changes	2.5/3.4	
000022 Loss of Reactor Coolant Makeup / 2					04		AA2.04 How long PZR level can be maintained within limits	2.9/3.8	
000025 Loss of RHR System / 4		02					AK2.02 LPI or decay heat removal/RHR pumps	3.2/3.2	
000027 Pressurizer Pressure Control System Malfunction / 3		03					AK2.03 Controllers and positioners	2.6/2.8	
000027 Pressurizer Pressure Control System Malfunction / 3					17		AA2.17 Allowable RCS temperature difference vs. reactor power	3.1/3.3	
000032 Loss of Source Range NI / 7				01			AA1.01 Manual restoration of power	3.1/3.4	
000033 Loss of Intermediate Range NI / 7									
000037 Steam Generator Tube Leak / 3					16		AA2.16 Pressure at which to maintain RCS during S/G cooldown	4.1/4.3	SRO
000038 Steam Generator Tube Rupture / 3						1.19	EG2.1.19 Use plant computer to obtain and evaluate parametric information on system or component status	3.0/3.0	
000054 (CE/E06) Loss of Main Feedwater / 4					01		AA2.01 Occurrence of reactor and/or turbine trip	4.3/4.4	SRO
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4					1		EA2.1 Facility conditions and selection of appropriate procedures during abnormal and emergency operations	3.4/4.4	SRO
000058 Loss of DC Power / 6					01		AA2.01 That a loss of dc power has occurred; verification that substitute power sources have come on line	3.7/4.1	S/R
000060 Accidental Gaseous Radwaste Rel. / 9									
000061 ARM System Alarms / 7	01						AK1.01 Detector limitations	2.5/2.9	
W/E16 High Containment Radiation / 9									
000065 Loss of Instrument Air / 8									
K/A Category Point Totals:	1	3	2	2	6	2	Group Point Total:		16



System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
001 Control Rod Drive				20								K4.20 The permissives and interlocks associated with increase from zero power	3.2/3.4	
001 Control Rod Drive								09				A2.09 Station blackout	3.8/4.0	S/R
003 Reactor Coolant Pump								02				A2.02 Conditions which exist for abnormal S/D of a RCP in comparison to a normal S/D of a RCP	3.7/3.9	
003 Reactor Coolant Pump											1.20	G2.1.20 Execute procedure steps	4.3/4.2	S/R
004 Chemical and Volume Control	10											K1.10 Pneumatic valves and RHRS	2.7/2.9	
004 Chemical and Volume Control			08									K3.08 RCP seal injection	3.6/3.8	
013 Engineered Safety Features Actuation					01							K5.01 Definitions of safety train and ESF channel	2.8/3.2	
013 Engineered Safety Features Actuation											4.9	G2.4.9 Low power / shutdown implications in accident (e.g. LOCA or loss of RHR) mitigation strategies	3.3/3.9	S/R
014 Rod Position Indication				03								K4.03 Rod bottom lights	3.2/3.4	
015 Nuclear Instrumentation						01						K6.01 Sensors, detectors, and indicators	2.9/3.2	
017 In-core Temperature Monitor									01			A3.01 Indications of normal, natural, and interrupted circulation of RCS	3.6/3.8	
022 Containment Cooling	01											K1.01 SWS/cooling system	3.5/3.7	
022 Containment Cooling							03					A1.03 Containment humidity	3.1/3.4	
025 Ice Condenser														
026 Containment Spray										05		A4.05 Containment spray reset switches	3.5/3.5	
056 Condensate														
059 Main Feedwater														
061 Auxiliary/Emergency Feedwater						01						K6.01 Controllers and positioners	2.5/2.8	
063 DC Electrical Distribution										03		A4.03 Battery discharge rate	3.0/3.1	
068 Liquid Radwaste									02			A3.02 Automatic isolation	3.6/3.6	
071 Waste Gas Disposal											4.10	G2.4.10 Annunciator response procedures	3.0/3.1	S/R
072 Area Radiation Monitoring			01									K3.01 Containment ventilation isolation	3.2/3.4	
K/A Category Point Totals:	2		2	2	1	2	1	2	2	2	3	Group Point Total:		19

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
002 Reactor Coolant								04				A2.04 Loss of heat sinks	4.3/4.6	S/R
006 Emergency Core Cooling				14								K4.14 Cross-connection of HPI/LPI/SIP	3.9/4.2	
010 Pressurizer Pressure Control			03									K3.03 ESFAS	4.0/4.2	
011 Pressurizer Level Control									01			A3.01 Boration/dilution	2.8/2.8	
012 Reactor Protection					01							K5.01 DNB	3.3/3.8	
016 Non-nuclear Instrumentation										02		A4.02 Recorders	2.7/2.6	
027 Containment Iodine Removal														
028 Hydrogen Recombiner and Purge Control							01					A1.01 Hydrogen concentration	3.4/3.8	
029 Containment Purge			02									K3.02 Containment entry	2.9/3.5	
033 Spent Fuel Pool Cooling														
034 Fuel Handling Equipment														
035 Steam Generator										01		A4.01 Shift of S/G controls between manual and automatic control, by bumpless transfer	3.7/3.6	
039 Main and Reheat Steam					05							K5.05 Bases for RCS cooldown limits	2.7/3.1	
055 Condenser Air Removal			01									K3.01 Main condenser	2.5/2.7	
062 AC Electrical Distribution		01										K2.01 Major system loads	3.3/3.4	
064 Emergency Diesel Generator		02										K2.02 Fuel oil pumps	2.8/3.1	
073 Process Radiation Monitoring	01											K1.01 Those systems served by PRMs	3.6/3.9	
075 Circulating Water								01				A2.01 Loss of intake structure	3.0/3.2	
079 Station Air								01				A2.01 Cross-connection with IAS	2.9/3.2	S/R
086 Fire Protection														
103 Containment										01		A3.01 Containment isolation	3.9/4.2	
K/A Category Point Totals:	1	2	3	1	2		1	3	2	2		Group Point Total:		17



Facility: Turkey Point		Date of Exam: 10/14/2002	Exam Level: SRO	
Category	K/A #	Topic	Imp.	Points
Conduct of Operations	2.1.12	Apply technical specifications for a system	2.9/4.0	S/R
	2.1.29	How to conduct and verify valve lineups	3.4/3.4	
	2.1.32	Explain and apply all sys limits and precautions	3.4/3.8	
	2.1.22	Determine mode of operation	2.8/3.3	
	2.1.06	Supervise and assume a management role during plant transients	2.1/4.3	SRO
	2.1.09	Direct personnel activities inside the control room	2.5/4.0	SRO
	Total			
Equipment Control	2.2.12	Surveillance procedures	3.0/3.4	S/R
	2.2.04	Explain the variations in CB layouts, systems, instr, and procedural actions between units	2.8/3.0	
	2.2.01	Perform pre-startup procedures for the facility, including operating those controls associated with plant equipment that could affect reactivity	3.7/3.6	
	Total			
Radiation Control	2.3.01	10 CFR: 20 and related facility radiation control requirements	2.6/3.0	
	2.3.10	Perform procedures to reduce excessive levels of radiation and guard against personnel exposure	2.9/3.3	S/R
	2.3.11	Control radiation releases	2.7/3.2	
	Total			
Emergency Procedures/ Plan	2.4.41	Emer action level thresholds and classifications	2.3/4.1	SRO
	2.4.15	Communication procedures associated with EOP implementation	3.0/3.5	
	2.4.20	Operational implications of EOP warnings, cautions and notes	3.3/4.0	
	2.4.16	EOP implementation hierarchy and coordination with other support procedures	3.0/4.0	S/R
	2.4.08	How the event based emergency/abnormal operating procedures are used in conjunction with symptom based EOPs	3.0/3.7	SRO
	Total			
Tier 3 Point Total (SRO)				17

Facility: Turkey Point			Date of Exam: 10/14/2002					Exam Level: RO					
Tier	Group	K/A Category Points											Point Total
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	
1. Emergency & Abnormal Plant Evolutions	1	3	3	2				3	3			2	16
	2	2	2	3				3	3			4	17
	3			1				1	1				3
	Tier Totals	5	5	6				7	7			6	36
2. Plant Systems	1	3	1	2	2	1	2	2	3	3	1	3	23
	2	1	2	3	2	2			3	2	5		20
	3			2				2	2	1	1		8
	Tier Totals	4	3	7	4	3	2	4	8	6	7	3	51
3. Generic Knowledge and Abilities					Cat 1		Cat 2		Cat 3		Cat 4		13
					4		3		3		3		
<p>Note: 1. Ensure that at least two topics from every K/A category are sampled within each tier (i.e., the "Tier Totals" in each K/A category shall not be less than two).</p> <p>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 exam must total 100 points.</p> <p>3. Select topics from many systems; avoid selecting more than two or three K/A topics from a given system unless they relate to plant-specific priorities.</p> <p>4. Systems/evolutions within each group are identified on the associated outline.</p> <p>5. The shaded areas are not applicable to the category/tier.</p> <p>6.* The generic K/As in Tiers 1 and 2 shall be selected from Section 2 of the K/A Catalog, but the topics must be relevant to the applicable evolution or system.</p> <p>7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings for the SRO license level, and the point totals for each system and category. K/As below 2.5 should be justified on the basis of plant-specific priorities. Enter the tier totals for each category in the table above.</p>													

ES-401

PWR RO Examination Outline  
Emergency and Abnormal Plant Evolutions - Tier 1/Group 1

Form ES-401-4 (R8, S1)

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000005 Inoperable/Stuck Control Rod / 1				05			AA1.05 RPI	3.4/3.4	
000015/17 RCP Malfunctions / 4	01						AK1.01 Natural circulation in a nuclear power plant	4.4/4.6	
000015/17 RCP Malfunctions / 4				02			AA1.02 RCP oil reservoir level and alarm indicators	2.8/2.7	
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4						4.49	EG2.4.49 Perform without reference to procedures those actions that require immediate operation of system components and controls	4.0/4.0	
000024 Emergency Boration / 1									
000026 Loss of Component Cooling Water / 8					02		AA2.02 The cause of possible CCW loss	2.9/3.6	S/R
000027 Pressurizer Pressure Control System Malfunction / 3		03					AK2.03 Controllers and positioners	2.6/2.8	
000027 Pressurizer Pressure Control System Malfunction / 3					17		AA2.17 Allowable RCS temperature difference vs. reactor power	3.1/3.3	
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4	3						EK1.3 Annunciators and conditions indicating signals, and remedial actions associated with the (Uncontrolled Depressurization of all Steam Generators)	3.4/3.7	
CE/A11; W/E08 RCS Overcooling - PTS / 4									
000051 Loss of Condenser Vacuum / 4						1.08	AG2.1.8 Coordinate personnel activities outside the control room	3.8/3.6	
000055 Station Blackout / 6			02				EK3.02 Actions contained in EOP for loss of offsite and onsite power	4.3/4.6	
000057 Loss of Vital AC Elec. Inst. Bus / 6			01				EK3.01 Actions contained in EOP for loss of vital ac electrical instrument bus	4.1/4.4	
000062 Loss of Nuclear Service Water / 4									
000067 Plant Fire On-site / 9	01						AK1.01 Fire classifications, by type	2.9/3.9	
000068 (BW/A06) Control Room Evac. / 8				31			AA1.31 ED/G	3.9/4.0	
000069 (W/E14) Loss of CTMT Integrity / 5		03					AK2.03 Personnel access hatch and emergency access hatch	2.8/2.9	
000074 (W/E06&E07) Inad. Core Cooling / 4		06					AK2.06 Turbine bypass and atmospheric dump valves	3.5/3.6	
BW/E03 Inadequate Subcooling Margin / 4									
000076 High Reactor Coolant Activity / 9					04		AA2.04 Process effluent radiation chart recorder	2.6/3.0	
BW/A02&A03 Loss of NNI-X/Y / 7									
K/A Category Totals:	3	3	2	3	3	2	Group Point Total:		16



000061 ARM System Alarms / 7	01						AK1.01 Detector limitations	2.5/2.9	
WE16 High Containment Radiation / 9									
CE/E09 Functional Recovery									
K/A Category Point Totals:	2	2	3	3	3	4	Group Point Total:		17



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PWR RO Examination Outline  
Plant Systems - Tier 2/Group 1

Form ES-401-4 (R8, S1)

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
001 Control Rod Drive				20								K4.20 The permissives and interlocks associated with increase from zero power	3.2/3.4	
001 Control Rod Drive								09				A2.09 Station blackout	3.8/4.0	S/R
003 Reactor Coolant Pump								02				A2.02 Conditions which exist for abnormal S/D of a RCP in comparison to a normal S/D of a RCP	3.7/3.9	
003 Reactor Coolant Pump											1.20	G2.1.20 Execute procedure steps	4.3/4.2	S/R
004 Chemical and Volume Control	10											K1.10 Pneumatic valves and RHRS	2.7/2.9	
004 Chemical and Volume Control			08									K3.08 RCP seal injection	3.6/3.8	
013 Engineered Safety Features Actuation					01							K5.01 Definitions of safety train and ESF channel	2.8/3.2	
013 Engineered Safety Features Actuation											4.9	G2.4.9 Low power / shutdown implications in accident (e.g. LOCA or loss of RHR) mitigation strategies	3.3/3.9	S/R
015 Nuclear Instrumentation						01						K6.01 Sensors, detectors, and indicators	2.9/3.2	
015 Nuclear Instrumentation									03			A3.03 Verification of proper functioning/operability	3.9/3.9	RO
017 In-core Temperature Monitor									01			A3.01 Indications of normal, natural, and interrupted circulation of RCS	3.6/3.8	
022 Containment Cooling	01											K1.01 SWS/cooling system	3.5/3.7	
022 Containment Cooling								03				A1.03 Containment humidity	3.1/3.4	
025 Ice Condenser														
056 Condensate	03											K1.03 MFW	2.6/2.6	RO
059 Main Feedwater								07				A1.07 Feed pump speed, including normal control speed for ICS	2.5/2.6	RO
059 Main Feedwater										08		A4.08 Feed regulating valve controller	3.0/2.9	RO
061 Auxiliary/Emergency Feedwater						01						K6.01 Controllers and positioners	2.5/2.8	
061 Auxiliary/Emergency Feedwater		03										K2.03 AFW diesel driven pump	4.0/3.8	RO
068 Liquid Radwaste										02		A3.02 Automatic isolation	3.6/3.6	
068 Liquid Radwaste								02				A2.02 Lack of tank recirculation prior to release	2.7/2.8	RO

071 Waste Gas Disposal				05									K4.05 Point of release	2.7/3.0	RO
071 Waste Gas Disposal												4.10	G2.4.10 Annunciator response procedures	3.0/3.1	S/R
072 Area Radiation Monitoring			01										K3.01 Containment ventilation isolation	3.2/3.4	
K/A Category Point Totals:	3	1	2	2	1	2	2	3	3	1	3		Group Point Total:		23

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PWR RO Examination Outline  
Plant Systems - Tier 2/Group 2

Form ES-401-4 (R8, S1)

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
002 Reactor Coolant								04				A2.04 Loss of heat sinks	4.3/4.6	S/R
006 Emergency Core Cooling				14								K4.14 Cross-connection of HPI/LPI/SIP	3.9/4.2	
010 Pressurizer Pressure Control			03									K3.03 ESFAS	4.0/4.2	
011 Pressurizer Level Control									01			A3.01 Boration/dilution	2.8/2.8	
012 Reactor Protection					01							K5.01 DNB	3.3/3.8	
014 Rod Position Indication				03								K4.03 Rod bottom lights	3.2/3.4	
016 Non-nuclear Instrumentation										02		A4.02 Recorders	2.7/2.6	
026 Containment Spray										05		A4.05 Containment spray reset switches	3.5/3.5	
029 Containment Purge			02									K3.02 Containment entry	2.9/3.5	
033 Spent Fuel Pool Cooling									02			A3.02 Spent fuel leak or rupture	2.9/3.1	RO
035 Steam Generator										01		A4.01 Shift of S/G controls between manual and automatic control, by bumpless transfer	3.7/3.6	
039 Main and Reheat Steam					05							K5.05 Bases for RCS cooldown limits	2.7/3.1	
055 Condenser Air Removal			01									K3.01 Main condenser	2.5/2.7	
062 AC Electrical Distribution		01										K2.01 Major system loads	3.3/3.4	
063 DC Electrical Distribution										03		A4.03 Battery discharge rate	3.0/3.1	
064 Emergency Diesel Generator		02										K2.02 Fuel oil pumps	2.8/3.1	
073 Process Radiation Monitoring	01											K1.01 Those systems served by PRMs	3.6/3.9	
075 Circulating Water								01				A2.01 Loss of intake structure	3.0/3.2	
079 Station Air								01				A2.01 Cross-connection with IAS	2.9/3.2	S/R
086 Fire Protection										06		A4.06 Halon system	3.2/3.2	RO
K/A Category Point Totals:	1	2	3	2	2			3	2	5		Group Point Total:		20

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PWR RO Examination Outline  
Plant Systems - Tier 2/Group 3

Form ES-401-4 (R8, S1)

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
005 Residual Heat Removal								02				A2.02; Pressure transient protection during cold shutdown	3.5/3.7	RO
005 Residual Heat Removal								04				A2.04 RHR valve malfunction	2.9/2.9	S/R
007 Pressurizer Relief/Quench Tank														
008 Component Cooling Water														
027 Containment Iodine Removal														
028 Hydrogen Recombiner and Purge Control							01					A1.01 Hydrogen concentration	3.4/3.8	
034 Fuel Handling Equipment														
041 Steam Dump/Turbine Bypass Control														
045 Main Turbine Generator							05					A1.05 Expected response of primary plant parameters (temperature and pressure) following T/G trip	3.8/4.1	
076 Service Water			01									K3.01 Closed cooling water	3.4/3.6	RO
076 Service Water			07									K3.07 ESF loads	3.7/3.9	
078 Instrument Air										01		A4.01 Pressure gauges	3.1/3.1	
103 Containment									01			A3.01 Containment isolation	3.9/4.2	
K/A Category Point Totals:			2				2	2	1	1		Group Point Total:		8

Plant-Specific Priorities

System / Topic	Recommended Replacement for...	Reason	Points

Plant-Specific Priority Total: (limit 10)

Facility: Turkey Point		Date of Exam: 10/14/2002	Exam Level: RO	
Category	K/A #	Topic	Imp.	Points
Conduct of Operations	2.1.12	Apply technical specifications for a system	2.9/4.0	S/R
	2.1.29	How to conduct and verify valve lineups	3.4/3.4	
	2.1.32	Explain and apply all sys limits and precautions	3.4/3.8	
	2.1.22	Determine mode of operation	2.8/3.3	
	Total			
Equipment Control	2.2.12	Surveillance procedures	3.0/3.4	S/R
	2.2.04	Explain the variations in CB layouts, systems, instr, and procedural actions between units	2.8/3.0	
	2.2.01	Perform pre-startup procedures for the facility, including operating those controls associated with plant equipment that could affect reactivity	3.7/3.6	
	Total			
Radiation Control	2.3.01	10 CFR: 20 and related facility radiation control requirements	2.6/3.0	
	2.3.10	Perform procedures to reduce excessive levels of radiation and guard against personnel exposure	2.9/3.3	S/R
	2.3.11	Control radiation releases	2.7/3.2	
	Total			
Emergency Procedures/ Plan	2.4.15	Communication procedures associated with EOP implementation	3.0/3.5	
	2.4.20	Operational implications of EOP warnings, cautions and notes	3.3/4.0	
	2.4.16	EOP implementation hierarchy and coordination with other support procedures	3.0/4.0	S/R
	Total			
Tier 3 Point Total (RO)				13

Tier / Group	Randomly Selected K/A	Reason for Rejection
T1G1	074EK2.06	Rejected due to Non-applicability to this facility, replaced by 074EK2.03 (both RO and SRO)
T2G2	079A2.01	Facility does not have procedure for handling effects on the Station Air System from being cross connected with the Instrument Air System therefore, a question could not be written addressing this K/A. Replaced by 033A2.03 (both RO and SRO)
T1G2	038EG2.1.19	Facility plant computer does not address using SGTR evaluation. Replaced by 038EG2.1.07
T2G1/T2G2	063A4.03	Facility does not have control room indication of battery discharge rate. Replaced by 063K2.01
T2G1	059A1.07	Facility does not have MFW pumps with speed control, SGFPs are electric. Replaced by 059A1.03 (RO only)
T1G1	W/E09EG2.4.49	Facility procedures associated with Natural Circulation Operations do not have designated immediate actions. Replaced by W/E09EG2.4.48
T1G2	W/E11EG2.2.11	Process for controlling temporary changes not compatible with Loss of Emergency Coolant Recirculation. Replaced by W/E11EG2.4.18
T1G3	W/E13EA2.2	Steam generator overpressure question could not be written addressing limitations in the facility's license and amendments. The facility's license does not address steam generator pressure as a condition of it's license. Replaced by W/E13EA2.1
T1G1/T1G2	001AG2.4.12	Question could not be written to this K/A (crew responsibilities during a rod withdrawal). Replaced by 001AG2.4.11.
T1G2	058AA2.01	Question could not be written at a high enough difficulty level since facility verification of DC voltage loss and return is demonstrated by the use of lights and voltage checks. Replaced by 058AA2.03 (RO only)
T1G2	058AA2.01	Question could not be written at a high enough difficulty level since facility verification of DC voltage loss and return is demonstrated by the use of lights and voltage checks. Replaced by 058AG2.1.12 (SRO only)
T2G2	011A3.01	Determined that a question could not be written for this facility at a high enough difficulty level to discern any discriminating value. Replaced by 011A3.03.
T2G3	076K3.07	K/A not valid for this facility since service water does not cool ESF equipment. Replaced by 076K3.05.
T2G1	001A2.09	Facility does not have procedure to address mitigation of the effects of a station blackout on the CRDS. Replaced by 001A2.10 (RO)
T1G1	057AK3.01	Facility does not have actions within the EOPs for loss of a vital AC instrument bus (actions are contained in AOPs). Replaced by 057AA1.01.
T2G2	033A3.02	Facility does not have automatic actions associated with the SFP cooling system. Replaced by 033G2.2.3 (RO only).
T2G1	017A3.01	Question could not be written at a high enough difficulty. K/A not conducive to written exam, better used for evaluation on the operating exam. Replaced by 017K6.01.

T2G1	061K2.03	Facility does not have diesel driven AFW pump. Replaced by 061K4.02 (RO only)
T1G1	059AA2.03	Question could not be written at the SRO level that would not cue the applicants to answers to other questions. Test author determined that Liquid Rad Waste was highly sampled and randomly changed the K/A keeping the AA2 category. Replaced by 051AA2.02.
T1G1	076AA2.04	Facility does not have process radiation chart recorder for RCS activity. Replaced by 076AA2.01.
T2G1	071G2.4.10	SRO Only. K/A 2.4.10, Knowledge of annunciator response procedures is not conducive to SRO Only topic. Replaced by 071G2.4.44
T3	G2.4.15	Facility does not have communication procedures associated with EOP implementation. Replaced by G2.4.09.
T3	G2.2.04	Facility differences between Control Board layouts is not significant. Replaced by G2.2.11.

