ES-201, Rev. 9E

Examination Preparation Checklist

Form ES-201-1

Facility:	Watts Bar 2008-301 Date of Examination:	5/12/2008			
Examinat	ions Developed by:				
Target Date <sup>*</sup>	Task Description (Reference)	Chief Examiner's Initials			
-180	1. Examination administration date confirmed (C.1.a; C.2.a and b)	11/2007			
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	1/08/2008			
-120	3. Facility contact briefed on security and other requirements (C.2.c)	1/08/2008			
-120	4. Corporate notification letter sent (C.2.d)	1/1/tax s			
[-90]	[5. Reference material due (C.1.e; C.3.c; Attachment 2)]	3/31/2008 -			
{-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)	3/17/2008			
{-70}	{7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)}	3/22/2008			
{-45}	8. 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 reference materials due (C.1.e, f, g and h; C.3.d)	3/31/2008			
-30	9. Preliminary license applications (NRC Form 398's) due (C.1.1; C.2.g; ES-202)	4/12/2008			
-14	10. Final license applications due and Form ES-201-4 prepared (C.1.1; C.2.i; ES-202)	4/28/2008			
-14	<ol> <li>Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)</li> </ol>	4/28/2008 f			
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f and h; C.3.g)	4/28/2008			
-7	<ol> <li>Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)</li> </ol>	5/5/2008 §			
-7	<ol> <li>Final applications reviewed; 1 or 2 (if &gt;10) applications audited to confirm qualifications / eligibility; and examination approval and waiver letters sent (C.2.i; Attachment 4; ES-202, C.2.e; ES-204)</li> </ol>	5/5/2008 <i>č</i>			
-7	<ol> <li>Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k)</li> </ol>	5/19/2008 }			
-7	<ol> <li>Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)</li> </ol>	5/5/2008			
* Targe ident case- [App	<ul> <li>NRC examiners (C.3.i)</li> <li>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.</li> <li>[Applies only] {Does not apply} to examinations prepared by the NPC</li> </ul>				

### **Examination Outline Quality Checklist**

Form ES-201-2

Facilit	y: Date of Examination	1:
Item	Task Description	Initials
1. W	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.	Ret Out I
R I	<ul> <li>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.</li> </ul>	AND ANT AR
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	ANA QUIT &
N	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	RA-DWI &
2. S	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.	NA ANT
M U L A T	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.	NOH DUR A
<sup>,</sup> O R	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.	NH PUN
3. W / T	<ul> <li>a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2:</li> <li>(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</li> <li>(2) task repetition from the last two NRC examinations is within the limits specified on the form</li> <li>(3) no tasks are duplicated from the applicants' audit test(s)</li> <li>(4) the number of new or modified tasks meets or exceeds the minimums specified on the form</li> <li>(5) the number of alternate path, low-power, emergency, and RCA tasks meet the criteria on the form.</li> </ul>	AH Dur A
	<ul> <li>b. Verify that the administrative outline meets the criteria specified on Form ES-301-1:</li> <li>(1) the tasks are distributed among the topics as specified on the form</li> <li>(2) at least one task is new or significantly modified</li> <li>(3) no more than one task is repeated from the last two NRC licensing examinations</li> </ul>	At que at
	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.	Rott Dur At
4.	<ul> <li>Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.</li> </ul>	OH- QUE
G F	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	NH proce
N	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	DA AVE
R	d. Check for duplication and overlap among exam sections.	KOAT BWG
A	e. Check the entire exam for balance of coverage.	OH DWI
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	NA SWIL D
a. Auth b. Facil c. NRC d. NRC	or Darrell Hensley / Carnel Velandy ity Reviewer (*) Chief Examiner (#) Supervisor	3 <u>/14/08</u> 3 <u>/14/08</u> 3 <u>/25/08</u>
Note:	<ul> <li># Independent NRC reviewer initial items in Column "c"; chief examiner concurrence requies</li> <li>* Not applicable for NRC-prepared examination outlines</li> </ul>	uired.
	SEE AMACHED & Wall & FORMS	

# New OMEST Outline Submitted

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# Examination Outline Quality Checklist

### Form ES-201-2

Facili	ly: Date of Examinatio	h:		
ltem	Tesk Description		Initial b:	£ 
1.	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.			
R	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.		X/	٨
T T	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.		X	A
E N	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.			$\sum$
z. Ş	<ul> <li>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.</li> </ul>	CH	Que	A
	b. Assess whether there are enough scenerio 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.	set	Qae	
0 R	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.	84	Que	. As
3. W / T	<ul> <li>a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2;</li> <li>(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</li> <li>(2) task repetition from the last two NRC examinations is within the limits specified on the form</li> <li>(3) no tasks are duplicated from the applicants' audit test(s)</li> <li>(4) the number of new or modified tasks meets or exceeds the minimums specified on the form</li> <li>(5) the number of alternate path, low-power, emergency, and RCA tasks meet the criteria on the form.</li> </ul>	K	X.	1
	<ul> <li>b. Verify that the administrative outline meets the oriteria specified on Form ES-301-1:</li> <li>(1) the tasks are distributed among the topics as specified on the form</li> <li>(2) at least one task is new or significantly modified</li> <li>(3) no more than one task is repeated from the last two NRC licensing examinations</li> </ul>		*	
<b>.</b>	c. Determine if there are arough different autlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.			
4. 0	<ul> <li>Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.</li> </ul>	100	Que	
9 E	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.			A.
N. E	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.		NIA-	
R	c. Check for duplication and overlap among exam sections.			×.
î	Check the entire exem for belance of coverage.			
Auth Facil NRC NRC	or Darrell Hensley (NO or SRO). Ny Reviewer (*) Data of W. LeGrand / Data of Willing Willing (*) Chief Examiner (#) Gerren / Data / Data of Willing (*) Supervisor Malcolart. WilDMANN (Marcular)	3 3 9 0	Date [37] [27] [1] [02/0	08 08 2
ote:	# Independent NRC reviewer initial items in Column "c": chief examiner concurrence requ Not applicable for NRC-prepared examination outlines	ired.		
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	ES-201, Page 26 of 28	6	y Fe	AC



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381-2000

June 11, 2008

10 CFR 55.40

Mr. Gerard W. Laska U.S. Nuclear Regulatory Commission, Region II Sam Nunn Atlanta Federal Center 61 Forsyth St., Suite 23T85 Atlanta, Georgia 30303-8931

Dear Mr. Laska:

In the Matter of the Tennessee Valley Authority ) ) Docket No. 50-390

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 - REACTOR AND SENIOR REACTOR OPERATOR INITIAL EXAMINATIONS - 05000390/2008301

TVA's letter dated June 6, 2008, submitted documentation related to the operator initial examinations to satisfy the requirements of Examination Standard (ES) 501, "Initial Post-Examination Activities," of NUREG 1021, "Operator Licensing Examination Standards for Power Reactors." Also in the June 6, 2008, letter, TVA indicated that the original Examination Security Agreement would be provided by June 30, 2008. Consistent with this, please find enclosed the completed original Examination Security Agreement. With the transmittal of this document, all required documentation associated with the examinations has been provided to NRC.

TVA's principal contact regarding the license examination is Don LeGrand, WBN Operations Training. Should you require additional information regarding this matter, please contact Mr. LeGrand at (423) 365-3858 or contact me at (423) 365-1824.

Sincerely,

INR /

M. K. Brandon Manager, Site Licensing and Industry Affairs

Enclosure cc: Page 2 U.S. Nuclear Regulatory Commission Page 2 June 11, 2008

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Enclosures cc (w/o Enclosures): NRC Resident Inspector Watts Bar Nuclear Plant 1260 Nuclear Plant Road Spring City, Tennessee 37381

> ATTN: Patrick D. Milano, Project Manager U.S. Nuclear Regulatory Commission Division of Operating Reactor Licensing Office of Nuclear Reactor Regulation MS O-8H4 Washington, DC 20555-0001

U.S. Nuclear Regulatory Commission, Region II ATTN: Mr. Malcolm Widmann Chief, Operator Licensing and Human Performance Branch Sam Nunn Atlanta Federal Center 61 Forsyth St., Suite 23T85 Atlanta, Georgia 30303

### ENCLOSURE

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Examination Security Agreement

Ram - Watts Bar

Original Security Agreement w/FAX

#### **Examination Security Agreement**

Form ES-201-3

ialized knowledge about the NRC licensing examinations scheduled for the week(s) of  $\frac{5(12/08)}{12}$  as of the date lowingly divulge any information about these examinations to any persons who have not been authorized by the am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered ate until completion of examination administration, except as specifically noted below and authorized by the NRC or or communicator is acceptable if the individual does not select the training content or provide direct or indirect he physical security measures and requirements (as documented in the facility licensee's procedures) and s of this agreement may result in cancellation of the examinations and/or an enforcement action against me or port to facility management or the NRC chief examiner any indications or suggestions that examination security

#### 2. <u>Post-Examination</u>

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 \_\_\_\_\_\_. 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. Darrell Hensley	Exam Project Manager	Damell Hensberg	164/08	Janeffensley.	6/3/08
3. Donald La Goland	Even Supervisers	Worald Sexuand	0111/08	Puilit sand	- <u></u>
4. (Dillian Borg/4	Similatur Servitas	aller & My	1/14/08	Jim & m	C13/68
5. PSTAVICH	<u> </u>	TSlow		1 Sten	6-4-8
6. Michael A. Huy	<u></u>	nath	<u>i-16-8</u>	math	6.4.8
7. STEVE HEDRICK	SIME	Alter abardero	<u>1.25-8 (</u>	XIIII ADDIVER	$-\frac{6(4103)}{6}$
8. Robert SHULT	SIM	- RAH ung	1-25-8	R H H M S R L	- 6-9-08
9. sale Hot man	Bim Instr	- Afgle. Hord Man	<u> </u>	Have to man	
11 STAR Paravale	Reactor Eng. / KAG	- Orn J. Waren	2/20/09	Mark	<u>C14/18</u>
12 TF Hill	1)0	- Que the 12		at Lig	6-4-8
13. RECTENS		Aliere	3/1/08	Alien	6-5-08
14. Jonce N. Anors	Hora M. tate St	O Am 21 at	3/20/08	Non note	>UIAY
15. HARVEY C. BADGER	<u>    us</u>	Harvey Ciang Bang	3/20/03	Horvey Craig Ban	<u>c6/4/08</u>
NOTES:		7 3 7	•	/ /	
4/25/08					
Page 1 of \$3					

May 2008 ILT NRC Exam-

Examination Security Agreement

Watts Bar

#### Form ES-201-3

#### 1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of  $M_{\rm eff}$  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 \_\_\_\_\_\_. 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. Thomas Jowes	SON OPERATIONS INST.	The	2/12/08	SEE ATTACH	ED FAY	
2. JOHN B. KUDEN	SUN OFERATIONS INSTR	Jun Dilown	412/08	SEE ATTACH	ED FRX	
3. JOSK BOWMAN	WBNY SM		3/22/8		0 SK	
4. VINCENZ JUMNER	WBN UO		3/25/08 -	4/2	615/38	,
5. Jony Dennis	WBN U.O.	dam H. Hunis	_4/408 L	Par teleson /	<u>6/5/98</u> DAH	Operator on
6. DENNIS JONES	WBN OPS INST	Tendis M. Ang	4/ilos De	white M. Some	C3/08	8 day breat
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9. Steven & Smith	WBN OPS Supt	SRSmith	4/1-08 2	Barth	6-3.01	
10. B.P. HUNT	NBN SM	BAT	4/3/0821	ONA	615108	
11. Kevin S. Elam	WBN RXE	- Keven Elom	4/16/08 7	even Eam	615/08	
12. William H, Hoghen	WBN OPS	William & Horton /	4-21-8 4	Albertoth).	6-4-8	
13. /msthy//mally	INDA DAS	1 1m Ball Log h	24-2108	Tu the H / h	1,0,6	
14. S. Sile Fren	Unit Marauged SM	Star	4/22/8 8	Per Telecon	6-5-08 DA	A Querator
15. William Dimond	WBN INSF	with Ghil	42508 7	NATIA	6.4.8	1 501
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#### 1. <u>Pro-Examination</u>

i acknow-edge that I have acquired specialized knowledge about the NRC licensing explainations scheduled for the week(s) of <u>Nor B</u> as of the date of my signature-I agree that I will not knowingly divide any information about these examinations to any persons who have not been authorized by the NRC chief examiner. Lund estand 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, excepted separate specifically noted below and authorized by the NRC (e.g., acting as a simulator costh operator or communicator is a-coeptable if the individue! does not select the training content or provide direct or indirect feedback]. Furthermore, I are availed of the physicalised by measures and requirements (as documented in the facility license's procedures) and understand that i violation of the conditions of this agreement or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

#### 2. Pest-Examination

To the best of ray knowledge, I did not dhulge to any unanthorized persons any information concerning the NR-) licensing examinations administered during the weell(s) of \_\_\_\_\_\_. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance ecologics to those applicants who were administrated these licensing examinations, except as specifically noted below and authorized by the NRC.

PRINTED NAME	JO3 TIT_ / RESPONSIBILITY	SIGNATURE (1)	DATE	S GNATURE (2)	DATE NOTE
1. Thomas Jowes	SQU OKERATIONS JUST.	The second	2/12/05	Shoth S	L+4/08
2. John B. 20Derr	SQN CHERATIONS ISTE	Toler & Rotan	2/12/08	Ben B Koden	16/4/19
3. Josh Bowman	WANP SM	/VARY->	1/218	/	
4. NEWCOUR EJMNES	WIN TO		3/22/08		
5. Jaky DEMMIS	1400 U.O.	and & Denies	4408 L	10 1	· · · ·
6. DEMINS TONES	WAN GS INST	Tation Al Gana	Alior	usis M. Sm	100
7. John Callins	LUSA JO	and they	91,198,	L'all	17 408
8. Copes Ageo	000 40	China and a second	04/01/04	Teres,	Elar
9. Steven K Dmith	WBA DE Sup	Stand	441-38 -	Jan	6-3.01
10. B.P. HUNET	NBN SM	Bren	4/2/08		and and an and the second
11. Kessin S-Elam	WBH REE	Keine Plain	4/15/08	Kerty Elow	615108
12. Withen H. Horton	WAY OFS	withanald torton 1	4-#-8		640
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ES-201, Page-26 of 27

ES-201	Examination Security Agreement	Form ES-201-3

#### 1. **Pre-Examination**

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 5/12/08 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 \_\_\_\_\_\_. 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 SIGNAT	URE (2) DATE NOTE	
JPM Sound equestering JNLy K	PRINTED NAME 1. Albert V. White 2. DANIEL W. BARKER 3. Mary R. Shipe 4. Ralph E, Schmook 5. STEVENT HEORTEK 6. Mary Lynn Watson 7. Rick A O'Rear 8. CINE T. DENTEN 9. Allen WYNN 10. ICTNY L. Newman 11. Billy Johnson 12. J. Idam Neuport 13.	JOB TITLE / RESPONSIBILITY WBN JUSTRUCTOR WBN LEARN + DEV. REP WBN LEARN + DEV. REP WBN SIMF Man Learn - Joequest Man Learn -	SIGNATURE (1) Oubert y Note Dr Barker Mary R. Shipe Alexa Connell Marker	DATE SIGNAT 4-25-08 Cubet W 4-27-08 Dr Ba 5/12/08 Mary R 5/12/08 Mary R 5/12/08 Mary R 5/12/08 Per fele 5/12/08 Per pho 5/12/08 Per pho 5/12/08 Per pho 5/12/08 Per pho 5/12/08 Per pho 5/12/08 Per pho 5/12/08 Per pho	URE (2) DATE NOTE NKite 6-4-08 Koff 6-4-08	nduudual left Watts Bar B Watts Bar Watts Bar
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	14					
	NOTES <sup>.</sup>				and work the other series and prove that, which have also black which have your over some	

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> \* These 4 individuals have not been, and will not be exposed to any written exam moderials ES-201, Page 27 of 28

# May 2008 ICT NEC Exam - Watts Bar

#### ES-201

#### **Examination Security Agreement**

Form ES-201-3

#### 1. <u>Pre-Examination</u>

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of  $\frac{5(12/08)}{12}$  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. <u>Post-Examination</u>

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 \_\_\_\_\_\_. 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. Darrell Hensley	Exam Project Manager	Dorrell Hensberg	164/08	Janet Jeusley	6/3/08
2. Janel themes	FRAM Develop	Vallar	<u>/4/05</u>	Carlos 1	63107
3. Donald Le Grand	Exam Supervisors	Donald Lettrand	01/11/08_	Andlikiand	6/3/8
4. William Borgly	Similator Servira	aller dy	1/14/08	June Ar	<u> </u>
5. PSTHVICH	<u> </u>	- TSOW		Ben	6-4-8
6. Michael A. Huy	SRO	matt	<u>i-16-5</u>	math	6.4.8
7. STEVE HEDRICK	SIMF	Atter ibanich	<u>1.25-8</u>	Atta Nodraet	<u> </u>
8. Robert J. Hurt	SIM	RATING	<u> </u>	RAHMED	6-4-08
9. Dale Hoffman	6im Instr	Hale Hox man	<u> </u>	Agle Horman	6/3/08
10. RORYL. WARREN	Reactor Eng. / RXE	Key j. Warnen	2/2.0/08	<u> </u>	
11. Steve Reininghaus	Contractor / Consultant	LATEN_	<u></u>	APP	G/4/08
12. JF Hill 3	0	- Hill	3/2/8	hotely 4	<u>6-4-X</u>
13. RECTENS	SM	- Attiens	<u>3/1/08_</u>	Ca in	- 6-5-08
14. JONCE N. ANTS	hora M. tath St	O Am nat	-3/20/08	Non note	>41/24
15. HARVEY C. BARGER	<u></u>	Hawy Cing Barg	3/20/03	Horvey Claighan	6/4/08
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Page 1 of \$ 2

## May 2008 ILT NRC Exam-Watts Bar

ES-201

#### **Examination Security Agreement**

Form ES-201-3

#### 1. <u>Pre-Examination</u>

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of  $\underbrace{10}{10}$  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. <u>Post-Examination</u>

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 \_\_\_\_\_\_. 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. Thomas Jowes	SQN OPERATIONS INSt.	The	2/12/08	SEE ATTACHI	ED FAX	
2. John B. KODEN	SQN OPERATIONS INSTR	Juli Dlover	2/12/08	SEE ATTACH	ED FAX	
3. JUSH BOWMAN	WANP 3M		3/22/8	SX-	-Sish	
4. VINCENZ SUMNER	WBN UO		3/22/08 -	6/L	615/28	
5. Jony Dennis	WBN U.O.	anust. A was	4 VOR S	Por teleson /	6/5/08 DA	+ operator o
6. DENNIS JONES	WBN OB INST	Carrie M Any	4/1/08 New	ales M. Some	13/08	& day brog
7. tober Gilins	GRU U.D	the fill	41.198	Lall	117.408	J. J.
8. Cotais Rico	WEN UD	Charles,	04/01/05	ULS,	Sulda	
9. Steven & DMITZ	WBN OPS SUD	SREATE	41-28 21	Duha x	6-3-01	
10. B.P. HUNT	WBN SM	BAT	4/3/08 26	THA	6/5/08	
11. Kevin S. Elam	WBN RXE	Kevin Flores	4/16/08 2	aurin Elan	615/08	
12. William H. Hostin	WBN OPS	William to Hoston 1	4.21-8 W	Montato.	10-4-8	
13. Timsthy // malle	INDA DAS	The set In Inch	12-2118	1. W. 11.1	1,12 6	
14. S. Sile Fren	Unit Marauged SM	Very Com	4/22/8 F	a Jacon	1-5-08 NA	A Ducentar
15. William Dimond	WBN inst	Water G Hint	42508 2	VIL JILA	1.08	Koil
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ES-201		Examination Security Agreement	Form ES-201-3
		Watts Bar	
(	May 2003	ILT MRC EXONN-	(
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#### 1. <u>Pro-Examination</u>

Lacknowledge that I have acquired specialized knowledge about the NRC licensing explainations scheduled for the week(s) of the provide a soft the date of my signature. Lagree that I will not knowledge about the NRC licensing explainations to any persons who have not been authorized by the NRC chief examinations from this date until completion of examination administration, excepted sepecifically noted below and authorized by the NRC (e.g., acting as a simulator costh operator) is an communicator is an acceptable if the individual does not select the training content or provide direct or indirect feedback]. Furthermore, I are avaire of the physicalised up measures and requirements (as documented in the lactity license's procedures) and understand that is conditions of this agreement or the NRC chief examinations and/or an enforcement action against me or the facility feen see. I will im rediately report to facility measures or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

#### 2. Pest-Examination

To the best of ray knowledge, I did not dhulge to any unanthorized persons any information concerning the NR-) licensing examinations administered during the week(s) of \_\_\_\_\_\_. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance excloses to those applicants who were administrated these licensing examinations, except as specifically noted below and authorized by the NRC.

PRINTED NAME	IOR TIT FIRESPONSED ITY	SIGUATION	DATE	C CALATRADIT 100	Dim un
		OILDIGHTUNE (1)		S.GNATURE (2)	GATE NOTE
1. Thomas Jours	SQU OPERATIONS Toust	THE AT	2/12/05	HAN >	644/08
2. John B. ZODEN	SQN OTERATIONS ISTE	John & Roden	2/12/08	Tax a B Konlen	16/4/19
3. Josla Bowman	WANP SM	(VACCO)	1/218		x+ 4/va
4. VIENCENTE EUMNEL	WIN DO	224	3/42/08		
5. Same Dennis	430 U.O.	arread & work	1 ROUTE	10 1	7
6. Actives Tares	WAN GS INST	Tradition All Control	Allar I	une Man	i have
7. Elect Collins	LUGN JO	and a fait	dl. Tar,	List OD	el (Lees
8. Copes Aco	UGN UD	C.S.	offerture	The states of th	Selon .
9. Steven & Smith	WBA DE Stop	Road	41.38	Rand	6.9.00
10. B.P. HUNT	NBN SM	Stat	4/2/08	A Symmetry Provide State	3301
11. Kevin S-Elam	WBH RNE	Keinen Plana	4/16/08	Keit, Elain	GISTOR
12. el theen H. Horton	LUBY OF	william & torton 1	4. = 8	- COM F WALL	6-4-8
13. Turator Vorus	WILLE DIS	Time Long Inch	24-25-	Ch. H. T.L	
14. S. Sicu Frend	Weit Purcero MM	Here I a	YNUS	- church cur	- for gen
15. Witham Vinderat	WON USF	The Ang Hind	4-508	WHANA	Curr
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ES-201	Examination Security Agreement	Form ES-201-3
	Examination debanty Agreement	10111120-201-3

#### Pre-Examination 1.

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 5/12/08 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.

#### **Post-Examination** 2.

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 \_\_\_\_\_\_. 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	
JPM Soen	1. Albert V. White 2. DANIEL W. GARKER 3. Mary R. Shipe 4. Ralph E. Schmodk 5. Staven THEORTOK 6. Mary Lynn Watson 7. Rick A. G. Rear	WBN Jestandor WBN INSTRUCTOR WBN INSTRUCTOR WBN LEARN + DEV. REP WBN _ STA WBN SIMF Mark With Jequest Mark With Jequest	Alex Proper Angel R. Shipe Alex Convole Alex Convole Mary R. Shipe Alex Convole Mary R. Shipe Schwork Mary R. Shipe Mary R. Shipe Mary R. Shipe Mary R. Shipe Mary R. Shipe	4-25-08 4-27-08 5/12/08 5/12/08 5/12/08 5/12/08 5/12/08	Cubert v n. Ritz S & Barkey Mary A. Shipe Hutti Channes Perfection B / ONL	6-4-08 6-4-08 - 6/4/08 - 6/5/8 - 6/5/8 - 6/5/08 Individue - 6/5/08 Watts B	il left ar
ONLY	9. <u>Allen</u> Wy NN 10. <u>Terry L. Newman</u> 11. <u>Billy</u> Johnson 12. J. Idam Newport 13. 14. 15. NOTES:	Anstructon OPS Training Monarger OPS SRO funit Supervisur OPS Unit operador	John Remains	5/12/08 5/12/08 5/27/0 5/27/8	Per phoneon-	4 614/08 - Individue 6/5/08 - Undividue 6/5/8 6/5/8	d lef s Bar

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> \* These Hindividuals have not been, and will ES-201. Page 27 of 28

Administrative Topics Outline

FINAL

Form ES-301-1

Facility: WATTS BA	R	Date of Examination: May 2008
Examination Level (circle on	e: RO/\$R	D Operating Test Number 1
Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	Ν	Hand calculation of Boric Acid & Primary Water integrator settings for a manual makeup to the VCT.
Conduct of Operations	Ν	Perform Shift Daily Surveillance Log Mode1
Equipment Control	Ν	Hand calculation of RCS water inventory balance 1-SI- 68-32.
Radiation Control	М	Calculate radiation dose to perform job in an area with two possible access routes and determine if dose exceeds administrative limits.
NOTE: All items (5 total) they are retaking	are required f only the admi	or SROs. RO applicants require only 4 items unless nistrative topics, when 5 are required.
* Type Codes & Criteria	(C)o (D)ir (N)e (P)re	ntrol room, (S)imulator, or Class(R)oom eect from bank (≤ 3 for ROs;≤ 4 for SROs & RO retakes) w or (M)odified from bank (≥1) evious 2 exams (≤ 1; randomly selected)

NUREG-1021, Revision 9

Ν Equipment Control Hand calculation of RCS water inventory balance, 1-SI-68-32. Calculate radiation dose to perform job in an area with **Radiation Control** Μ two possible access routes and determine if dose exceeds administrative limits. **Emergency Plan** Μ Classify the event per the REP and determination of PAR, per EPIP 4. NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required. \* Type Codes & Criteria (C)ontrol room, (S)imulator, or Class(R)oom (D)irect from bank ( $\leq$  3 for ROs;  $\leq$  4 for SROs & RO retakes) (N)ew or (M)odified from bank ( $\geq 1$ )

(P)revious 2 exams ( $\leq$  1; randomly selected)

Mode1

Administrative Topics Outline

Date of Examination: May 2008

Describe activity to be performed

1

Operating Test Number

Hand calculation of Boric Acid & Primary Water

Review and Evaluate Shift Daily Surveillance Log

integrator settings for a manual makeup to the VCT.

Form ES-301-1

RO (SRO

Туре

Code\*

Ν

Ν

Facility:

WATTS BAR

Examination Level (circle one):

Administrative Topic

(see Note)

**Conduct of Operations** 

Conduct of Operations

ES-301 Control Room/In-Plant Systems Outline Form ES-30										
Fac	ility: Watts Bar	Date of Exa	amination: M	ay 2008						
Exa	m Level: <b>RO</b>	Operating <sup>-</sup>	Fest No.: 1							
B.1	Control Room Systemse (8 for RO); (7 for SRO-I);	(2 or 3 for SRC	-U, including 1 I	ESF)						
	System / JPM Title		Type Code*	Safety Function						
a.	Synchronize Main Turbine to grid.		MLS	4S						
b.	Manual makeup to VCT with failure of Primary automatically stop.	Water to	MAS	1						
c.	Transfer Containment Spray Suction to Contair Per ES-1.3.	nment Sump	DS	5						
d.	Raise Cold Leg Accumulator Level.		DENS	3						
e.	Establish RCS Feed and Bleed per FR-H.1.		MALS	4P						
f.	Calibrate Power Range Nuclear Instrumentatio	n	MS	7						
g.	Restore charging and letdown with failure of let temperature controller and letdown temperature	down e divert valve.	NAS	2						
h.	Place Upper Containment Purge in service.		NS	8						
In-Pla	ant Systems@ (3 for RO); (3 for SRO-I); (3 or 2 for	SRO-U)								
a.	Local S/G level control from Motor Driven AFW	Pump.	DRE	4S						
b.	1A-A Diesel Generator idle start for warmup.		DA	6						
c.	Local emergency Control of 1-62-93 Charging I Valve	-low Control	DRE	1						
@ / :	All RO and SRO-I control room (and in-plant) systems must be a systems must serve different safety functions; in-plant systems	different and serve of and functions may c	lifferent safety funct verlap those tested	ions; all 5 SRO-U in the control room.						
	*Type Codes	Criteria for R	) / SRO-I / SRO							
(A)lter	nate path	4-6/4	-6 / 2-3							
(C)ont	rol room									
(D)irec	t from bank	≤9/≤	8 / <u>&lt;</u> 4							
(E)me	rgency or abnormal in-plant	<u>≥1/≥</u>	1 / ≥1							
(EN)gi	neered satety feature	- /	- $/ \ge 1$ (control r	oom system)						
(L)OW-	Power / Shutdown	$\geq 1/\geq$	1 / ≥1							
		>2/>	$2 / \geq 1$	a a la ata d)						
	000 2 GARIIS	<u>&lt;</u> 3/ <u>&lt;</u>	$5 / \leq 2$ (randomly	selected)						
(S)im	lator	21/2								

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Control Room/In-Plant Systems Outline Form ES-301-2

Facility: Watts Bar	Date of Examination: May 2008					
Exam Level: SRO-I	Operating <sup>-</sup>	Fest No.: <b>1</b>				
B.1 Control Room Systemse (8 for RO); (7 for SRO-I)	; (2 or 3 for SRC	)-U, including 1 E	ESF)			
System / JPM Title		Type Code*	Safety Function			
a. (Not required for SRO-I.)						
<ul> <li>Manual makeup to VCT with failure of Primary automatically stop.</li> </ul>	Water to	MAS	1			
c. Transfer Containment Spray Suction to Contai Per ES-1.3.	nment Sump	DS	5			
d. Raise Cold Leg Accumulator Level.		DENS	3			
e. Establish RCS Feed and Bleed per FR-H.1.		MALS	4P			
f. Calibrate Power Range Nuclear Instrumentation	n	MS	7			
g. Restore charging and letdown with failure of le temperature controller and letdown temperatu valve	tdown re divert	NAS	2			
h. Place Upper Containment Purge in service.	<u></u>	NS	8			
In-Plant Systems@ (3 for RO); (3 for SRO-I); (3 or 2 for	SRO-U)					
a. Local S/G level control from Motor Driven AFW	/ Pump.	DRE	4S			
b. 1A-A Diesel Generator idle start for warmup.		DA	6			
c. Local emergency Control of 1-62-93 Charging Valve	Flow Control	DRE	1			
@ All RO and SRO-I control room (and in-plant) systems must be systems must serve different safety functions; in-plant systems	different and serve of and functions may c	different safety functi overlap those tested i	ons; all 5 SRO-U n the control room.			
*Type Codes	Criteria for R	D / SRO-I / SRO-	-U			
(A)Iternate path	4-6/4	1-6 / 2-3				
(C)ontrol room						
(D)rect from bank	≤9/≤	<u>&lt;</u> 8 / <u>&lt;</u> 4				
(E)hergency or abhormal in-plant	$\geq 1/2$	$\geq 1 / \geq 1$				
	- /	$- \frac{1}{2}$   (control for	oom system)			
(N)ew or (M)odified from bank including 1(A)	21/2	21/21				
(P)revious 2 exams	< 3/ 4	< 3 / < 2 (randomly)	selected)			
(R)CA	>1/>	>1 />1				
(S)imulator						

FINAL							
ES-301 Control Room/In-	-Plant Systems Ou	utline Fo	orm ES-301-2				
Facility: Watts Bar	Date of Exa	amination: Ma	y 2008				
Exam Level: SRO-U	Operating	Test No.: 1					
B.1 Control Room Systemse (8 for RO); (7 for	SRO-I); (2 or 3 for SRC	)-U, including 1 E	SF)				
System / JPM Title		Type Code*	Safety Function				
a. (Not required for SRO-U.)							
b. (Not required for SRO-U.)							
c. (Not required for SRO-U.)							
d. Raise Cold Leg Accumulator Level.	, v. (1.000,000,000,000,000,000,000,000,000,00	DENS	3				
e. Establish RCS Feed and Bleed per FR-	H.1	MALS	4P				
f. (Not required for SRO-U.)							
g. Restore charging and letdown with failur temperature controller and letdown tem	re of letdown perature divert valve.	NAS	2				
h. (Not required for SRO-U.)			92-92-92-92-92-92-92-92-92-92-92-92-92-9				
In-Plant Systems@ (3 for RO); (3 for SRO-I); (3 c	or 2 for SRO-U)	<u> </u>					
a. (Not required for SRO-U.)							
b. 1A-A Diesel Generator idle start for war	mup.	DA	6				
c. Local emergency Control of 1-62-93 Ch Valve	arging Flow Control	DRE	1				
@ All RO and SRO-I control room (and in-plant) systems systems must serve different safety functions; in-plant	must be different and serve of systems and functions may c	I I I I I I I I I I I I I I I I I I I	ns; all 5 SRO-U the control room.				
*Type Codes	Criteria for R	D / SRO-I / SRO-I	U				
(A)Iternate path	4-6/4	-6 / 2-3					
(C)ontrol foom (D)irect from bank		. 0 / . 4					
(E)mergency or abnormal in-plant	<u> </u>	$\leq 9/\leq 8/\leq 4$					
(EN)gineered safety feature			om system)				
(L)ow-Power / Shutdown	- / \\\\\	$- / - / \ge 1$ (control room system)					
(N)ew or (M)odified from bank including 1(A)	>2/>	>2/>2/>1					
(P)revious 2 exams	< 3/ <	$\leq 3 / \leq 2$ (randomly s	elected)				
(R)CA	<u>≥</u> 1/>	,	,				
(S)imulator		_					

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### **Operating Test Quality Checklist**

## Form ES-301-3

1. General Criteria     0       8. The operating test conforms with the previously approved outline: changes are consistent with degramments (a.g., 10 CFR 55.45, operational importance, safety function disribution)     0.       b. There is no day-to-day repetition between this and other operading tests to be administered     0.       c. The operating test shall not duplicate items from the applicants' sudi test(s) (are Section D. (a.)     0.       c. The operating test shall not duplicate items from the applicants' sudi test(s) (are Section D. (a.)     0.       d. Overlap with the written examination and between different parts of the operating test is within acceptable limits.     0.       e. It appears that the designated litering test is within acceptable limits.     0.       e. Report PM includes the following, as applicable:     0.       initial implicants and bols, including associated procedures     0.       e. It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated litering associated procedures     0.       e. It appears that the operating test will differentiate between competent and less-than-competent applicants at the designation of description of the sate of the distill literiate and an operationature.     0.       e. It appears that the description of the previously approved systems and administrative weik-through ortificate on the previously approved systems and administrative weik-through ortificate form successful to opticative.     0.       e. It applicant applicant application of the test     0.     0.	Facility	Date of Examination: Operatin	g Test	Numb	ir.
a. The operating test conforms with the previously approved outline: changes are consistent with sempling requirements (a.g., 10 CFR 55.45, operational importance, safety function distribution) b. There is no day-to-day repetition between this and other operading tests to be administered during this examination.  c. The operating test shall not duplicate items from the applicant: audit test(c) (see Section D.1.e.).  d. Overlap with the written examination and between different parts of the operating test to within acceptable immle.  e. It appears that the operating test will differentiate between competiont and less-than-competent applicants at the designation and between different parts of the operating test within acceptable immle.  e. It appears that the operating test will differentiate between competiont and less-than-competent applicants at the designated licence level.  2. Welk-Through Criteria  4. Each JPM includes the following, as applicable:  5. Initial conditions  6. Italiang cues  6. Italiang cues  6. Identified expected actions with exact criteria and nonenclature  7. System response and other examiner cues to the applicant  7. Identification of critical elapse and here associated by the applicant  7. Identification of critical elapse and their associated by the applicant  7. Identification of critical elapse and their associated performance standards  7. Identification of critical elapse and their associated performance standards  7. Identification of critical elapse and their associated performance standards  7. Identification of critical elapse and their associated performance standards  7. Identification of critical elapse and their associated performance standards  7. Identification of critical elapse and their associated performance standards  7. Identification of the sequence of stops, if applicable  7. Each JPM includes the second stops, if applicable  7. Identification of the sequence of stops, if applicable  7. Identification of critical elapse and their associated performance standards		1. General Criteria		Initia 6*	6
b.       There is no day-to-day repetition between this and other operating tests to be administured during the examination.       Att Definition of the examination and between different parts of the operating test is within acceptable limits.         c.       The operating test shall not duplicate items from the applicants audit test(s) (see Section D.1.s.)       Att Definition D.1.s.)         d.       Overlap with the written examination and between different parts of the operating test is within acceptable limits.       Att Definition D.1.s.)       Att Definition D.1.s.)         e.       It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	<b>₽</b> .	The operating test conforms with the previously approved outline; changes are consistant with sampling requirements (e.g., 10 CFR 55,45, operational importance, safety function distribution).	ANA	Que	ł
E.       The operating test shall not duplicate items from the applicants: sudi test(c) (see Section D.1.8.)       SM (W)         d.       Overtap with the written examination and between different parts of the operating test is within accoptable limits.       SM (W)         e.       It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.       SM (W)         a.       Each JPM includes the following, as applicable:       -       -         initiating puese       -       -       -         e.       references and tools, including associated procedures       -       -         e.       references and tools, including associated procedures       -       -         e.       references and tools, including associated procedures       -       -         e.       references and tools, including associated procedures       -       -         e.       operationally important specific precedures       -       -         e.       designation if desarred to be firme-critical by the facility licensee       -       -         e.       designation if desarred to be firme-critical and nomenclature       -       -       -         e.       statemonte desarroliting important observations to be made by the applicant       -       -       -         e.	<b>b.</b> -	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	AA	()ør	
d.       Overlap with the written examination and between different parts of the operating test is within acceptable limits.       Aut Mit acceptable limits.         e.       It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.       Aut Mit and Automatical Competence of the operating test is within acceptable and validated time (initial conditions)         a.       Each JPW includes the following, as applicable:	<u>c.</u>	The operating test shall not duplicate items from the applicants' audit test(s), (see Section D.1.a.)	DH	GUN	ļ
e. It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.  2. Walk-Through Criteria  3. Each JPM includes the following, as applicable:  4. Initial conditions  5. Initial conditions  6. Initial conditions  7. Ini	d.	Overlap with the written exemination and between different parts of the operating test is within acceptable limits.	AIA	R	ł
2. Welk-Through Criteria        a. Each JPM includes the following, as applicable:     initial conditions       billbaing cuse     initial conditions       c. Initialing cuse     references and tools, including associated procedures       reasonable and validated time (inits (average time allowed for completion) and specific designation if dearned to be time-child lay the facility licensee     Description       c. operationally important specific performance criteria that include:	e. ·	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	254	SUN	
Bech JPM includes the following, as applicable:     initial conditions     Initialing curse     initial conditions     Initialing curse     references and tools, including associated procedures     reasonable and validated time (imits (average time allowed for completion) and specific     designation if dearned to be time-child by the facility licensee     operationally important specific performance criteria that include:         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 alogs and their associated performance standards         restrictions on the sequence of totogs, if applicable         Ensure that end betrieventic auged the test to deviate from any of the acceptance         or those forms and Form ES-201-2         Simulator Criteria         (a, item distribution, bank use, repetition from the last 2 NRC examinations) specified         on those forms and Form ES-201-2         Printed Name / Signature         Author         Danald W. LaGra and Manale Manale Manale Manale         NM   Manale         Simulator Criteria         Author         Danald W. LaGra and Manale Manale         Singleture         Data         Singleture         Author         Danald W. LaGra and Manale Manale         Singleture         Josta         Josta         Singleture         Josta		2. Walk-Through Criteria		_	
an those forms and Form ES-201-2. 3. Simulator Criteria The associated almulator operating tests (scenario sete) have been reviewed in accordance with Printed Name / Signature Author Facility Reviewer(*) Donald W. LeGra and / Donald Well Hensley 4/4/08 NRC Chief Examiner (#) GEMED W. LASICA / Amel Well Hensley 5/1/2008 NRC Supervisor MALCONT. WIDMANN / Without, dWa 05/02/08 NRC Supervisor MALCONT. WIDMANN / Without, dWa 05/02/08 NRC Supervisor TE: The facility signature is not applicable for NRC-developed tests. Independent NRO reviewer initial items in Column 'C': chief examiner concurrence required. Bottom B lack (FR ES-301-4 NOT INIT (ALED)		<ul> <li>Initiating cues</li> <li>references and tools, including associated procedures</li> <li>reasonable and validated time (imits (average time allowed for completion) and specific designation if deemed to be time-critical by the facility licensee</li> <li>operationally important specific performance criteria that include:         <ul> <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> <li>Ensure that any changes from the previously approved systems and administrative walk-through outlines (Forms ES-301-T and 2) have not caused the test to deviate from any of the acceptance criteria (e.d., them distribution bark use causet the lase to deviate from any of the acceptance</li> </ul>	<b>6</b> 14	<b>Gut</b> Qui	
3. Simulator Criteria Author Darrell Hensley / Danell Heurly 4/4/08 Frinted Name / Signature Data Author Darrell Hensley / Danell Heurly 4/4/08 Facility Reviewen(*) Donald W. LeGrand / Donald Heurly 4/4/08 NRC Chief Examiner (#) GERADD N. USKA / Author 5/1/2018 NRC Supervisor Walcow T. NIDWS N.M. / Mitmur, dW 05/02/08 ITE: The facility signature is not applicable for NRC-developed tests. # Independent NRO reviewer initial items in Column 'c': chief examiner concurrence regulied. Bottom B lack (FOR ES-301-4 NOT INIT, ACED I		on those forms and Form ES-201-2		94	F
Author     Date       Author     Date       Facility Reviewen(*)     Donald W. LeGrand / Bonell Heurly       Author     Donald W. LeGrand / Bonell Heurly       Facility Reviewen(*)     Donald W. LeGrand / Bonell Heurly       NRC Chief Examiner (#)     GEMED W. LeGrand / Bonell Heurly       NRC Supervisor     Macan T. NIDMA NM       MITE:     The facility signature is not applicable for NRC-developed tests.       #     Independent NRO reviewer initial items in Column 'c': chief examiner concurrence required.       Bottom B Lack (For 65-301-4 NOT INITIALED)		3. Simulator Criteria		-	
Author Darreli Hensley / Danuel Heurley 4/4/08 Facility Reviewen(*) Donald W. LeGrand / Boneld Heurley 4/4/08 NRC Chief Examiner (#) GEMED N. LASICA / Amell Heurley 4/4/08 NRC Supervisor WALCOW T. WIDMS N.M. / Minut, 4004 05/02/08 NTE: The facility signature is not applicable for NRC-developed tests. # Independent NRO reviewer initial items in Column 'c': chief examiner concurrence required. BOTION B LOCK (FOR ES-301-4 NOT INITIALED )	orm ES-	ated almulator operating tests (scenario sete) have been reviewed in accordance with 01-4 and a copy is attached.		Que	Ż
The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer initial items in Column 'c': chief examiner concurrence required. Bottom Black (For ES-301-4 NOT INITIALEY)	Autho Facili NRC NRC	Printed Name / Signature Darrell Hensley / Danell Heurly 4/4/ My Reviewer(*) Donald W. LeGrand / Stonald Williamd 4/3 Chief Examiner (#) GERADD N. LASICA / further 5/1 Supervisor WALCOLUT. WIDNANN / (100000, 9000 05/02)	Dete <u> </u>	200	
BOTTOM DICK (MIC ES-SUI-4 NOT INITIALBD	ITE:	The fadility signature is not applicable for NRC-developed tests. Independent NRO reviewer initial items in Column 'c': chief examiner concurrence required.			
		BOTION BLOCK ( WIL ES- SUI-9 NOT INITIALE)	ν		D

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# **Operating Test Quality Checklist**

Form ES-301-3

	Date of Examination. Operatin	giest	Numbe	er:						
	1. General Criteria	a	Initia b*	ls c#						
а.	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).	AA	Que	ß						
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	AA	(Dun	A						
с.	The operating test shall not duplicate items from the applicants' audit test(s). (see Section D.1.a.)	NOH	<i>GNII</i>	X						
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.	ALA	R	J.						
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	Q#	DUH	- Ph						
	2. Walk-Through Criteria									
a.	<ul> <li>Each JPM includes the following, as applicable:</li> <li>initial conditions</li> <li>initiating cues</li> <li>references and tools, including associated procedures</li> <li>reasonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time-critical by the facility licensee</li> <li>operationally important specific performance criteria that include: <ul> <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>	R H	But	R						
D.	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.	AIA	<i>64</i>	K						
	3. Simulator Criteria									
The asso Form ES	ciated simulator operating tests (scenario sets) have been reviewed in accordance with 301-4 and a copy is attached.	AA.	-							
Printed Name / Signature Date Printed Name / Signature Date Date 4/4/08 Donald W. LeGrand / Danald W. LeGrand / Danald W. LeGrand / 4/4/08 NRC Chief Examiner (#) NRC Supervisor NOTE: * The facility signature is not applicable for NRC-developed tests.										

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Simulator Scenario Quality Checklist

### Form ES-301-4

Facility	Dute of Exam Scenario Numbers /	Coperating Test	No.	an an air an air an							
	QUALITATIVE ATTRIBUTES			linta, ia	s						
			a	5.	0#						
<b>f</b> .	The initial conditions are realistic, in that some equipment and/or instrument of service, but it does not due the operators into expected events.	alion may be out	Å	Ar	R						
2	The scenarios consist mostly of related events.		溆	Reve	A						
3.	<ul> <li>Each event description consists of</li> <li>the point in the scenario when it is to be initiated</li> <li>the malfunction(s) that are entered to initiate the event</li> <li>the symptoms/cues that will be visible to the crew</li> <li>the expected operator actions (by shift position)</li> <li>the event termination point (if applicable)</li> </ul>										
3	No more than one non-mechanistic failure (e.g., pipe break) is incorporated into the scenano without a credible preceding incident such as a suismic event.										
5	The events are valid with regard to physics and thermodynamics		XXX	au	對						
6.	Sequencing and timing of events is reasonable, and allows the examination complete evaluation results commensurate with the scenario objectives.	team to obtain	AN	Dur	A						
7.	<ol> <li>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.</li> </ol>										
8.	The simulator modeling is not altered.		*	Qur	A						
9.	The scenarios have been validated. Pursuant to 10 CFR 55.46(d), any open performance deficiencies or deviations from the referenced plant have been to ensure that functional fidelity is monitained while running the planned scenario.	simulator evaluated tarios	Â	Plot	H						
10	Every operator will be evaluated using at least one new or significantly modif All other scenarios have been altered in accordance with Section D.5 of ES-	ied scenano. 301.	XÌ	Que	A						
21	All individual operator compotencies can be evaluated, as verified using For (submit the form along with the simulator scenarios)	n ES-301-6	XX	Qur	A						
12	Each applicant will be significantly involved in the minimum number of transit specified on Form ES-301-5 (submit the form with the simulator scenarios).	ants and events	AS.	Que	AL						
13.	The level of difficulty is appropriate to support licensing decisions for each cr	ew position.	A\$	Aur	R						
	Target Quantitative Attributes (Per Scenario; See Section D.5.d)	Actual Attributes	•.	1.4	·A						
1	Total mailunctions (5–8)	5/ 5 /	A	Que							
2	Mationctions after EOP entry (1-2)	A	Aur	Å							
3.	Abnormal events (2-4)	All	Jur	Xk							
e <b>l</b>	Major transients (1-2)	1/ 1 /	KA .	Por	K						
5	EOPs entered/requiring substantive actions (1-2)	3/ 2 /	AN .	Qur	M						
6	EOP contingencies requiring substantive actions (0-2)	1/ 1 /	A	apr							
7.	Critical tasks (2-3)	3/ 2 /	AA	Hert	Ø						

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### **Transient and Event Checklist**

Form ES-301-5

Facility:	V	Vatts B	ar		C	ate o	f Exam:	Мау	y 2008		Operating Test No.:1						
A	E		. <u>.</u>				Scer	narios	- for <b>U1</b>	, l1, R1							
P			1		2 3								Т	1	M		
											0		1				
1	Т		CREW			CREV	N		CREW	1	CREW					N I	
С		P P	OSITIC	N	P	OSITI	ON	Р	OSITIC	N	P	OSITIC	NC			M	
A		S	Α	В	S	A	В	S	A	В	s	A	В			J	
	P	R	T	0	R	T	0	R	T	0	R	T	0		I	V(*)	
	Ē	0	С	Р	0	C	Р	0	С	Р	0	С	P		R	1	U
RO	RX													0	1	1	0
SRO-I	NOR	1					6							2	1	1	1
SRO-U	I/C	2,3,4,5, 6					1,4							7	4	4	2
U1	MAJ	7					5,7							3	2	2	1
	тs	3,4,5												3	0	2	2
RO	RX		1											1	1	1	0
90.11	NOR				6									1	1	1	1
30-111	I/C		2,4,5		1,3,4									6	4	4	2
SRO-U	MAJ		7		5,7									3	2	2	1
	TS				1,3,5									3	0	2	2
RO <b>R1</b>	RX					6								1	1	1	0
SBO-I	NOR			1										1	1	1	1
	I/C			3,6		2,3								4	4	4	2
SRO-U	MAJ			7		5,7								3	2	2	1
	TS													0	0	2	2
RO	RX														1	1	0
SBOLI	NOR														1	1	1
	I/C														4	4	2
SRO-U	MAJ														2	2	1
	TS														0	2	2
Instruction 1. C e i	s: Check the event type and "bala nstrumer	applica e; TS a nce-of- it or co	ant leve re not a plant (l mpone	el and e applica 3OP)"   nt (I/C)	enter th ble for position malfur	ne ope RO a ns; Ins nction	erating te pplicants stant SR s and or	est num s. ROs Os mu le majo	nber an s must s st do or or trans	d Form serve in ne scen ient, in t	ES-D both ario, i the AT	-1 ever the "at- ncludir ſC pos	nt numl -the-co ng at lea ition.	oers ntrol: ast tv	for e s (A1 vo	ach <sup>-</sup> C)"	1 ,

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.

### **Transient and Event Checklist**

### Form ES-301-5

Facility:	W	/atts B	ar		D	ate of	f Exam:	Маз	y 2008			Оре	erating	Test	No.	:1	
A	E						Scena	arios - I	for <b>I3, I</b>	2, R2, U	2					2000	_
P P	V E N		1			2			3					T O		M I	
	Т		CREW			CREV	V		CREW	/	CREW			T		N	
С	_	P	OSITIC	N	P	OSITI	ON	P	OSITI	NC	P	OSITIC	ON			ı M	
AN	T	S	A	В	S	Α	В	S	A	В	S	A	В			J	
Т	P	R	T C	0 P	R			R			R	T				<u>M(*)</u>	<u>}</u>
	E		0	1		Ŭ				1	0		Г		К		U
RO	RX					6								1	1	1	0
SRO-I <b>I3</b>	NOR	1												1	1	1	1
SRO-U	I/C	2,3,4,5, 6				2,3								7	4	4	2
	MAJ	7				5,7								3	2	2	1
	TS	3,4,5						54 A.						3	0	2	2
RO	RX		1											1	1	1	0
SBO-U2	NOR							6						1	1	1	1
	I/C		2,4,5					1,3,4						6	4	4	2
SRO-U	MAJ		7					5,7						3	2	2	1
	TS							1,3,5						3	0	2	2
RO <b>R2</b>	RX								6					1	1	1	0
SBOIL	NOR			1										1	1	1	1
	I/C			3,6					2,3					4	4	4	2
SRO-U	MAJ			7					5,7					3	2	2	1
	TS													0	0	2	2
RO	RX													0	1	1	0
SBO-I	NOR				6									1	1	1	1
	I/C				1,3,4									3	4	4	2
SRO-U	MAJ				5,7									2	2	2	1
02	TS				1,3,5				10					3	0	2	2
Instruction 1. C e a i 2. R	s: heck the event type and "balar nstrumen eactivity	applica e; TS a nce-of- t or col manipu	ant leve re not a plant (E mpone ulations	el and e applica 3OP)"   nt (I/C) s may b	enter th ble for positior malfur pe conc	RO a RO a ns; Ins nction: lucted	erating te oplicants stant SR s and or	est num s. ROs Os mu ne majo normal	nber an s must st do o or trans or <i>con</i>	id Form serve in ne scen sient, in t <i>trolled</i> a	ES-D both ario, i he AT bnorn	-1 ever the "at- ncludin TC posi nal con	nt numl the-col ig at lea ition. ditions	oers ntrol ast tv (refe	for e s (A wo er to	ach <sup>-</sup> C)" Sec	, , stion

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.

be replaced with additional instrument or component malfunctions on a 1-for-1 basis.

### **Competencies Checklist**

Facility: Watts Bar	D	ate c	of Ex	ami	natio	n: N	1ay (	80		Оре	əratir	ng To	est N	lo.: 1	1	
			J <del>an 12 Directo</del>				AF	PLI	CAN	TS						
	F S	RO 1       RO 2       RO       RO       RO         SRO-I       SRO-I											F	RO SRO SRO	-  <b>2</b>   -U	
Competencies	<u></u>	SCENARIO SCENARIO								SCE	VAR	0	<u>s</u>	CEN	IARI	<u>o</u>
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Interpret/Diagnose Events and Conditions	3,6	2,3			3,6	2,3			2,4, 5	1-7			2,4, 5	1-7		
Comply With and Use Procedures (1)	1,3, 6	2,3, 6	1,3, 6	2,3, 6			1,2, 4,5, 7	1-7			1,2, 4,5, 7	1-7				
Operate Control Boards (2)	1,3, 6,7	2,3, 5,6			1,3, 6,7	2,3, 5,6			1,2, 4,5	N/A			1,2, 4,5	N/A		
Communicate and Interact	1,3, 6	2,3, 6,7			1,3, 6	2,3, 6,7			1,2, 4,5, 7	1-7			1,2, 4,5, 7	1-7		
Demonstrate Supervisory Ability (3)	N/A	N/A			N/A	N/A			N/A	1,2, 3,4, 5,6			N/A	1-6		
Comply With and Use Tech. Specs. (3)	N/A	N/A			N/A	N/A			N/A	1,3, 5			N/A	1,3, 5		
Notes: (1) Includes Technical S (2) Optional for an SRO (3) Only applicable to S	ipecifi -U. ROs.	catio	n cor	nplia	ince f	for ar	ı RO									

### 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.

### **Competencies Checklist**

Facility: Watts Bar	Date of Examination: May 08 Operating 7												est N	lo.: ′	1	
							AF	PLI	CAN	TS						
	F	RO     RO     RO       SRO-I 3     SRO-I     SRO-I       SRO-U     SRO-U 1     SRO-U 2											F	RO SRO SRO	] -I [ -U [	
Competencies		SCEI	VAR	10		SCE	NAF	210	5	SCEI	VAR	10	S	CEN	IARI	0
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Interpret/Diagnose Events and Conditions	2-7	2,3			2-7	1,4, 5,6, 7			1-7							
Comply With and Use Procedures (1)	1-7	2,3, 5,7			1-7	1,4, 5,6, 7			1-7							
Operate Control Boards (2)	N/A	2,3, 5,6, 7			N/A	1,4, 5,6, 7			N/A							
Communicate and Interact	1-7	2-7			1-7	1,4, 5,6, 7			1-7							
Demonstrate Supervisory Ability (3)	1-7	N/A			1-7	N/A			1-6							
Comply With and Use Tech. Specs. (3)	3,4, 5	N/A			3,4, 5	N/A			1,3, 5							
Notes: (1) Includes Technical St (2) Optional for an SRO- (3) Only applicable to SR	Decifi U. Cos.	catio	n cor	nplia	nce	for ar	n RO	•								

### 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. FINAL

						P	WR	Ex	ami	nati	on	Out	line		F	orm ES-401-
									NRC	EX	am					
Facility: V	Vatts Bar	<del></del>		Date	e of	Exa	ım:	Ма	iy 2	008						RO
Tier					·	RO ŀ		atego	ory Po	oints					SRO-Only	Points
	Group	К 1	К 2	К 3	К 4	К 5	к 6	A 1	A 2	A 3	A 4	G *	Total	A2	G*	Total
1.	1	2	1	5				3	4			3	18	a setter a		
Emergency & Abnormal	2	1	3	2		N/A		1	1	N	/A	1	9		· ·	
Plant Evolutions	Tier Totals	3 4 7 4 5 4 27														
	1	3 2 3 4 2 1 3 4 2 2 2 2 28														
2. Plant	2	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$														
Systems	Tier Totals	2       2       -       1       -       1       1       2       10         r Totals       5       2       4       4       3       2       4       5       2       3       4       38														
Systems         Tier Totals         5         2         4         4         3         2         4         5         2         3         4         38           3. Generic Knowledge and Abilities         1         2         3         4         5         2         3         4         38																
3. Generic Knowledge and Abilities       1       2       3       4       1       2       3       4         3       2       2       3       10       1       2       3       4																
2. 3.	Ensure in outlines (i less than The point for each o must total Systems/o the facility on the ou K/A state	iat at l i.e., e. two). total group 75 p evolut 75 p evolut 75 p	for ea and for ea ionts tions ald be should	two to t for o ach g tier m and t withir e dele d be a	roup ay de he Si he ad ted a	from ategor and ti eviate RO-or h grou h grou d. Ref	every ry in by ± nly ex up are stified	y app Tier 3 the p 1 fror (am r e iden d; ope Secti	licabl of th ropos n that nust t ntifiec eration	e K/A e SR sed o : spec otal 2 I on ti nally 1 b c	cate O-onl utline cified 25 poi he as impor	gory a y outh mush in the nts. socia tant,	are samp line, the ' t match the table ba ited outlin	bled within ea 'Tier Totals" i nat specified used on NRC ne; systems c cific systems/	ich tier of the F n each K/A ca in the table. T revisions. The or evolutions th evolutions tha	RO and SRO-only tegory shall not b the final point tota final RO exam nat do not apply a t are not included

2 NRC Exam

ES-401	ergenc	y and /	PV Abnorr	/R Exa nal Pla	iminati Int Evo	on Outline Iutions - T	er 1/Group 1 (RO)	1-2	
E/APE # / Name / Safety Function	K1	К2	КЗ	A1	A2	G	K/A Topic(s)	IR	#
000007 (BW/E02&E10 CE/E02) Reactor Trip - Stabilization - Recovery / 1			01				Reason for actions contained in EOP for reactor trip	4.0	1
000009 Small Break LOCA / 3		03					Interrelation between S/Gs and small break LOCA	3.0	1
000015/17 RCP Malfunctions / 4	03						Basis for reduced power with one RCP out of service	3.0	1
000022 Loss of Reactor Coolant Makeup / 2						2.4.31	Alarms, indications, and response procedures	4.2	1
000025 Loss of RHR System / 4			02				RHR low press piping isolation	3.3	1
000026 Loss of Component Cooling Water / 8				02			Monitor loads on CCW system from control room	3.2	1
000027 Pressurizer Pressure Control System Malfunction / 3					02		Normal values for RCS pressure	3.8	1
000038 Steam Gen. Tube Rupture / 3						2.2.40	Apply Tech Specs	3.4	1
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4					02		Adhere to procs and operate within limits of license	3.4	1
000055 Station Blackout / 6				01			Operate/monitor incore thermocouples	3.7	1
000057 Loss of Vital AC Elec. Inst. Bus / 6			01				Reasons for EOP actions	4.1	1
000058 Loss of DC Power / 6	01						Op imps of battery chrgr and instrumentation	2.8	1
000062 Loss of Nuclear Service Water / 4					02		Determine/interpret cause of SWS leak	2.9	1
000065 Loss of Instrument Air / 8			04				Reason for crossover to backup air supplies	3.0	1
W/E04 LOCA Outside Containment / 3			03				Manipulation of controls for desired results	3.8	1
W/E11 Loss of Emergency Coolant Recirc. / 4				03			Monitor for desired results	3.7	1
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4					02		Adhere to procs and operate within limits of license	3.7	1
000077 Generator Voltage and Electric Grid Disturbances / 6						2.1.20	Interpret and execute procedure steps	4.6	1
K/A Category Point Totals:	2	1	5	3	4	3	Group Point Total:		18

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#### NRC Exam

ES-401	Emer	P gency	WR Ex and A	kamina bnorm	ition O al Plar	utline It Evolutior	ns - Tier 1/Group 2 (RO)	401-2	
E/APE # / Name / Safety Function	К1	К2	кз	A1	A2	G	K/A Topic(s)	IR	#
000001 Continuous Rod Withdrawal / 1		01					Rod bank step counters	2.9	1
000028 Pressurizer Level Malfunction / 2	01						PZR reference leak abnormalities	2.8	1
000032 Loss of Source Range NI / 7		01					Power supplies, incl proper switch positions	2.7	1
000059 Accidental Liquid RadWaste Rel. / 9			01				Reasons for termination of a release	3.5	1
000067 Plant Fire On-site / 8				07			Operate/mon fire alarm reset panel	2.9	1
000069 (W/E14) Loss of CTMT Integrity / 5					01		Determine conditions and select procedures	3.3	1
000076 High Reactor Coolant Activity / 9						2.2.38	Conditions and limitations in facility license	3.6	1
W/EO1 & E02 Rediagnosis & SI Termination / 3			02				Procedures associated with SI Termination	3.3	1
W/E13 Steam Generator Over-pressure / 4		01					Component interlocks, failure modes, etc.	3.0	1
			:						
						,			
K/A Category Point Totals:	1	3	2	1	1	1	Group Point Total:	<u></u>	9

4

#### NRC Exam

ES-401				PV Pla	VR Exa ant Sys	aminat stems-	tion Ou Tier 2	ıtline /Group	0 1 (RC	))		Form ES-40	)1-2	
System # / Name	K1	К2	КЗ	K4	K5	К6	A1	A2	A3	A4	G	K/A Topic(s)	IR	#
003 Reactor Coolant Pump			04						Ι			Effect on RPS of RCP malf	3.9	1
004 Chemical and Volume Control				14								L/D tank bypass valve	2.8	1
005 Residual Heat Removal					09							Dilution/boration consider	3.2	1
006 Emergency Core Cooling						02						Eff. of core flood tanks malf	3.4	1
007 Pressurizer Relief/Quench Tank							02					Maintain PRT tank pressure	2.7	1
008 Component Cooling Water								02				High/low surge tank level	3.2	1
010 Pressurizer Pressure Control									01			Monitor during PORV test	3.0	1
	08											Cause/eff with PZR level	3.2	1
012 Reactor Protection											2.4.31	Alarms, response procs	4.2	1
013 Engineered Safety Features Actuation										02		Reset ESFAS channels	4.3	1
022 Containment Cooling									01			Monitor auto operation	4.1	1
025 Ice Condenser								05				Abnormal glycol tank level	2.5	1
026 Containment Spray							03					Containment sump level	3.5	1
039 Main and Reheat Steam					08							Steam removal eff on react	3.6	1
								03				Rad mon inds for SGTR	3.4	1
059 Main Feedwater				05								Control MFP speed	2.5	1
061 Auxiliary/Emergency Feedwater			02									AFW maif effect on S/G	4.2	1
062 AC Electrical Distribution		01										Power supp to system loads	3.3	1
063 DC Electrical Distribution	02											Cause/eff with AC system	2.7	1
064 Emergency Diesel Generator		02										Power supp to fuel oil pps	2.8	1
				05								Incomplete start relay	2.8	1
073 Process Radiation Monitoring			01									PRM malf eff on release	3.6	1
											2.4.35	Local AO tasks and effects	3.8	1
076 Service Water				03								CCW hx isolation valves	2.9	1
	ļ						02					Rx/turb bldg water temps	2.6	1
078 Instrument Air	01											Sensor air	2.8	1
103 Containment								05				Emergency entry	2.9	1
										09		Cont. vacuum system	3.1	1
K/A Category Point Totals:	3	2	3	4	2	1	3	4	2	2	2	Group Point Total:		28

ES-401	 	 	 	1	5 NRC I	Exam	······			Form ES-
ES-401			P P	WR Ex	kamina /stems	ition O	utline 2/Grou	p 2 (R	0)	Form ES-401-2
		[	Γ	1			T	l l		

System # / Name	<u>K1</u>	К2	К3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	IR	#
014 Rod Position Indication								02				Power loss to RPIS	3.1	1
028 Hydrogen Recombiner andPurge Control							02					Predict effect on cont pressure	3.4	1
033 Spent Fuel Pool Cooling											2.2.36	Effect of maint on LCO status	3.1	1
045 Main Turbine Generator					17							Effect on reactor of raising load	2.5	1
055 Condenser Air Removal											2.4.3	Identify post-accident instrument	3.7	1
056 Condensate	03											Cause/eff with MFW	2.6	1
068 Liquid Radwaste						10						Rad mon eff on on Liq Rad Sys	2.5	1
075 Circulating Water	02											Interface with radwaste discharge	2.9	1
079 Station Air										01		Cross-tie with IAS	2.7	1
086 Fire Protection			01									FPS malf eff on S/D capability eqp	2.7	1
K/A Category Point Totals:	2		1		1	1	1	1		1	2	Group Point Total:		10

401-2

	ES	-40	1
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### Generic Knowledge and Abilities Outline (Tier 3) NRC EXAM

Form ES-401-3

Facility: Watts B	ar	Date of Exam: May 2008			R	0
Category	K/A #	Торіс	R	C	SRC	-Only
			IR	#	IR	#
	2.1.5	Ability to use procedures related to staffing/overtime.	2.9	1		
1.	2.1.28	Purpose of major system components/controls	4.1	1		
Conduct	2.1.36	Procedures/limitations for core alterations	3.0	1		
of Operations						
	Subtotal			3		
	2.2.12	Knowledge of surveillance procedures	3.7	1		
	2.2.44	Interpret control room indications	4.2	1		
2. Equipment						
Control						
	Subtotal			2		
	2.3.7	Ability to comply with radiation work permits	3.5	1		
	2.3.14	Knowledge of radiation or contamination hazards	3.4	1		
3. Padiation						
Control						
	Subtotal			2	1 1	
	2.4.13	Knowledge of crew roles during EOP usage	4.0	1		
4.	2.4.37	Knowledge of lines of authority during E-plan.	3.0	1		
Emergency Broadures (	2.4.42	Knowledge of emergency response facilities	2.6	1		
Plan						
				•••••••••••••••		
	Subtotal			3		
Tier 3 Point Total				10		

# FINAL

											-1171							
Facility: V	Vatts Bar			Date	e of	Exa	im:	Ma	y 20	008								SRO
Tier						RO K	(/A Ca	atego	ory Po	oints						SRO	)-Only	Pointe
	Group	к	ĸ	ĸ	ĸ	ĸ		^						μ			J-Officy	
		1	2	3	4	5	6	1	2	3	4	*	Total	L A	2		G*	То
1.	1														3	3	3	e
& Abnormal	2					N/A				N	<b>/A</b>				2	2	2	4
Plant Evolutions	Tier Totals						ĺ	-							5		5	1
	1														3		2	5
2. Plant	2														1		2	3
Systems	Tier Totals														1			я Я
		1		I <u></u>		1										t	1	
3. Generio	: Knowledge an	d Abil	lities		·	1	2		3	3	4	1		1	2	3	4	
														2	1	2	2	7
2. 3. 4. 5. 6. 7.* 8.	outlines ( less than The point for each g must total Systems/d the facility on the ou K/A stater Select top selecting Absent a the RO ar Select SR The gene to the app On the fol the applic category i exam, ent SRO-only	I.e., e: two) total group for evolut y should y should	for ea and f oints tions uld be should s. oom a oond t spec O rat O rat O rat D rat	tor o ach g tier m and t withir be dele d be a s man opic h ific pr tings or Tie s in T blution ges, e se lev abov aleft s	roup lay de the Si or eac ted a added for an ciority for an ciorit	ategoi and ti eviate RO-oo h gro nd ju d. Ref stems y sys r, only e RO and 2 1 and system the K, i d the f del f of Col	ry in T ier in $1^{\circ}$ by $\pm^{\circ}$ nly ex stified fer to $3^{\circ}$ and $5^{\circ}$ tem o those and $5^{\circ}$ from $2^{\circ}$ sha n. Re $2^{\circ}$ sha n. Re $2^{\circ}$ sha n. A nur $2^{\circ}$ sha n. and li and li and li and li	the p I fror am r iden i; ope Secti evolu r evo K/A SRO- the s all be offer to mber t tota ng eo A2 fo	of the ropose in that nust to nust to nust to nust to rotions shave only hade selecto s shave oslow only hade selecto s sec s, a b s (#) quipn r Tier	e SR sed o t spectoral 2 d on t t nally 1.b c as p portice d sysected f tion [ for e nent i 2, G	O-on utline cified 25 po he as impo of ES- ossib ons, r tems rom \$ 0.1.b escri ach s s san roup	ly out muss in the ints. ssocia rtant, -401 f lele; sa oortar espea and Sectio of ES ption rysten npled 2 (No	time, the final time, the final time table batted outling site-spectry for guidar ample even the rating ctively. K/A categor 2 of the S-401 for of each the n and categor to the final time the final time the final time the final time table for the final time table	"Tier T hat speased of ased of ased of aser, sys ery sys ery sys g (IR) of agories. g (IR) of the ap the ap the ap copic, t egory. than C es not	otals" ecified n NRC tems of stems/ garding tem of f 2.5 c Catalo plicab he top Enter atego apply)	in each in the t. crevisio or evolu (evolutic g the eli r evoluti or highe g, but th le K/As. ics' imp the gro ry A2 or . Use du	K/A ca able. <sup>-</sup> ns. The tions the mination on in the r shall ne topic ortance up and G* on uplicate	Ategory shall The final poi e final RO e; nat do not ap t are not inc on of inappro- he group be: be selected. CS must be r e ratings (IR t the SRO-or e pages for
-	Ear Tiar 2	مامی	ct tor	oics fr	om S	Sectio	n 2 of	tho	KIN O	otolo	~ ~ ~							

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						NRC E	XAM		
ES-401	En	nergen	icy and	P I Abno	WR Ex rmal P	xamination lant Evoluti	Outline Form ES-4 ions - Tier 1/Group 1 (SRO)	01-2	
E/APE # / Name / Safety Function	К1	К2	КЗ	A1	A2	G	K/A Topic(s)	IR	#
000007 (BW/E02&E10 CE/E02) Reactor Trip - Stabilization - Recovery / 1					5		Interpret reactor trip first-out indication	3.9	1
000022 Loss of Reactor Coolant Makeup / 2						2.1.7	Evaluate plant perf and make operational judgements	4.7	1
000025 Loss of RHR System / 4					1		Interpret running RHR pump amperage	2.9	1
000027 Pressurizer Pressure Control System Malfunction / 3						2.4.6	EOP mitigation strategies	4.7	1
000058 Loss of DC Power / 6					1		Determine loss of DC power has occurred/backups I/S	4.1	1
W/E11 Loss of Emergency Coolant Recirc. / 4						2.2.22	Knowledge of LCOs and safety limits	4.7	1
K/A Category Point Totals:					3	3	Group Point Total:		6

ES-401 3 Form ES-401-2 NRC EXAM PWR Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 2 (SRO) ES-401 Form ES-401-2 E/APE # / Name / Safety Function K1 K2 K3 A1 A2 G IR # K/A Topic(s) 8 000059 Accidental Liquid RadWaste Rel. / 9 8 Misleading Rad Mon inds for accidental release 3.6 1 000068 (BW/A06) Control Room Evac. / 8 2.4.8 Use of abnormal procs in conj with EOPs 4.5 1 W/E13 Steam Generator Over-pressure / 4 1 Interpret conditions and select appr procedures 3.4 1 CE/A11; W/E08 RCS Overcooling - PTS / 4 2.4.18 Specific bases for EOPs 4.0 1 K/A Category Point Totals: --------2 2 ---Group Point Total: 4

ES-401		4										Form ES-401-2		
NRC EXAM														
ES-401	PWR Examination Outline Plant Systems- Tier 2/Group 1 (SRO)											Form ES-401-2		
System # / Name	<u></u>	К2	КЗ	K4	K5	K6	<u>A1</u>	A2	A3	A4	G	K/A Topic(s)	IR	#
003 Reactor Coolant Pump	' '	<u>                                     </u>	<b>ا</b> ــــــــــــــــــــــــــــــــــــ	<u>                                     </u>	Ļ'	$\square'$	L'	5	$\square'$			Effect of VCT press	2.8	1
012 Reactor Protection	''				ļ						2.2.44	Verify system status	4.4	1
061 Auxiliary/Emergency Feedwater	!	<u>                                     </u>	$\square'$					9				Total loss of feedwater	**TBD	1
064 Emergency Diesel Generator	!										2.2.37	Determine operability	4.6	1
076 Service Water	<u> </u> '	$\parallel$	ļ!	ļ	ļ			1	$\square$			Loss SWS	3.7	1
	<u> </u>								L	<u> </u>	<u>1</u>			
K/A Category Point Totals:								3			2	Group Point Total:		5

\*\*\* (TBD): Please note: Internal discussion with exam team members determined that the Importance Rating of K/A 061A2.09 is greater than 2.5. This discussion included the following points:

> Safety significance of total loss of FW on Watts Bar Nuclear Plant operation and entry into Emergency 1. Operating Procedures.

2. Recent industry operating experience related to total loss of feedwater.
| ES-401                        |    | n  |    |     |                  | 5                |                    |   |         |      |        | Eor                      | m EQ 40  | 4.0     |
|-------------------------------|----|----|----|-----|------------------|------------------|--------------------|---|---------|------|--------|--------------------------|----------|---------|
|                               |    |    |    | 101 | III E3-40        | 1-2              |                    |   |         |      |        |                          |          |         |
| ES-401                        |    |    |    |     | PWR E<br>Plant S | Examir<br>System | nation<br>Is- Tiel | Outline<br>2/Gro                          | up 2 (8 | SRO) |        | Form                     | ES-401-2 |         |
| System # / Name               | K1 | К2 | КЗ | K4  | К5               | K6               | A1                 | A2  | A3      | A4   | G      | K/A Topic(s)             | IR       | #       |
| 011 Pressurizer Level Control |    |    |    |     |                  |                  |                    |   |         |      | 2.1.32 | Limits and precautions   | 4.0      | 1       |
| 075 Circulating Water         |    |    |    |     |                  |                  |                    | 3   |         |      |        | Safety features          | 2.7      | <br>  1 |
| 086 Fire Protection           |    |    |    |     |                  |                  |                    | 1917 (1927)<br>1918 - 1917<br>1917 - 1917 |         |      | 2.4.9  | Mitigation for low power | 4.2      | 1       |
|                               |    |    |    |     |                  |                  |                    |   |         | 1    |        |                          | 1        | +       |

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2

Group Point Total:

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K/A Category Point Totals:

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ES-401

## Generic Knowledge and Abilities Outline (Tier 3) NRC EXAM

Form ES-401-3

Facility: Watts	Bar	Date of Exam: May 2008											
Category	K/A #	Торіс	F	RO	SRO-	Only							
			IR	#	IR	#							
	2.1.23	Perform system and integrated procedures all modes			4.4	1							
1.	2.1.34	Knowledge of primary/secondary plant chemistry limits	- 1. 		3.5	1							
Conduct						**************************************							
of Operations			i engleti i										
					-								
	Subtotal					2							
****	2.2.40	Ability to apply Tech Specs for a system			4.7	1							
2.													
Equipment Control													
	Subtotal												
	2.3.6	Ability to approve release permits			3.8	1							
	2.3.15	Knowledge of radiation monitoring equipment			3.1	1							
3.													
Radiation Control													
	Subtotal					2							
	2.4.23	Basis for prioritizing emergency procedures implementation			4.4	1							
4.	2.4.29	Knowledge of the emergency plan			4.4	1							
Emergency			202 - 202 - 2020 - 11 - 2020 - 12										
Procedures / Plan	-		and the second										
			and the second										
			n Ageneral and Regeleration										
	Subtotal					2							
Tier 3 Point Total						7							

ES-401

Form ES-401-4

		RO Examination
Tier / Group	Randomly Selected K/A	Reason for Rejection
1/1	015/017 AK1.03	Watts Bar does not operate at a reduced power level with one RCP out of service. A new K/A (015/017AK1.04) was provided by the Chief Examiner.
1/1	000022 Category K2	Category K2 has no K/As with importance rating ≥ 2.5. Randomly selected Category G, with a randomly selected K/A of 2.4.31.
1/1	000058 Category K2	Category K2 has no K/As with importance rating ≥ 2.5. Randomly selected Category K1 with a randomly selected K/A of K1.01.
1/1	000062 Category K1	Category K1 contains no K/As. Randomly selected another category (K2). This category also contains no K/As. Continued random selection of categories and obtained Category A2, with a K/A of A2.02.
1/1	000065 Category K2	Category K2 has no K/As with importance rating ≥ 2.5. Randomly selected Category K3 with a randomly selected K/A of K3.04.
1/2	000076AA1.04	Failed fuel monitor not part of current design basis at Watts Bar. Since there were no other K/As in Category A1 with importance rating $\geq$ 2.5, selected another Category, obtaining Category Generic. Note: this Category re-selection was not entirely random, but was implemented in order to improve sampling balance in Category Generic, for Tier 1, Group 2. After selecting G Category, performed a random sample, and obtained G2.2.38.
2/1	005K5.04	Low importance rating (2.1). Randomly resampled and obtained 005K5.09.
2/1	039 Category K6	Category K6 has no K/As with importance rating ≥ 2.5. Randomly resampled and obtained Category K5.
2/1	078 Category K5	Category K5 has no K/As with importance rating $\geq$ 2.5. Randomly resampled and obtained Category K1.
2/1	103 Category K6	Category K6 has no K/As with importance rating $\geq$ 2.5. Randomly resampled and obtained Category A2.
2/1	026A1.05	Chemical additive tank for Cont. Spray not part of Watts Bar design. Randomly resampled remaining K/As in Category A1 and obtained A1.03.
2/2	033 Category K6	Category K6 has no K/As with importance rating $\geq$ 2.5. Randomly resampled and obtained Category A4.
2/2	033 Category A4	Category A4 has no K/As with importance rating $\geq$ 2.5. Randomly resampled and obtained Category G.
2/2	045K5.08	Low importance rating (1.8). Resampled and obtained K5.10. Resampled repeatedly (due to numerous low importance ratings) until obtaining K5.17.
2/2	055 Category K4.	Category K4 has no K/As with importance rating $\geq$ 2.5. Randomly resampled and obtained Category G.
2/2	056 Category K3	Category K3 has no K/As with importance rating $\geq$ 2.5. Randomly resampled and obtained Category A1.
2/2	056 Category A1	Category A1 has no K/As with importance rating $\geq$ 2.5. Randomly resampled and obtained Category K1.
2/2	068 Category K2	Category K2 has no K/As with importance rating $\geq$ 2.5. Randomly resampled and obtained Category K6.

2/2	075K1.05	Low importance rating (2.0). Resampled and obtained K1.02.								
2/2	079 Category K2	Category K2 has only one K/A and it has a low importance rating (2.3). Resampled and obtained Category A1.								
2/2	079 Category A1	Category A1 has no associated K/As. Resampled and obtained Category K5.								
2/2	2/2 079 Category K5. Category K5 has no K/As with importance rating ≥ 2.5. Resampled and obtained Category A4.									
	•	SRO Examination								
Tier / Group	Randomly Selected K/A	Reason for Rejection								
3	2.1.28	Not linked to 10 CFR 55.43. Randomly resampled and obtained 2.1.3.								
3	2.1.3	Not linked to 10 CFR 55.43. Randomly resampled and obtained 2.1.34.								
3	2.4.37	Not linked to 10 CFR 55.43. Randomly resampled and obtained 2.4.31.								
3	2.4.31	Not linked to 10 CFR 55.43. Randomly resampled and obtained 2.4.23.								
1/1	000022 G2.1.28	Not linked to 10 CFR 55.43. Randomly resampled and obtained 2.1.7.								
1/2	059AA2.03	A new K/A (059AA2.02) more conducive to an SRO only question was provided by the Chief Examiner.								
2/2	011 G2.1.31	Not linked to 10 CFR 55.43. Randomly resampled and obtained 2.1.32.								

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Watts Bar May 2008 Initial License Exam

ES-401

Record of Rejected K/As

RO Examination											
Tier / Group	Randomly Selected K/A	Reason for Rejection									
1/1	000022 Category K2	Category K2 has no K/As with importance rating ≥ 2.5. Randomly selected Category G, with a randomly selected K/A of 2.4.31.									
1/1	000058 Category K2	Category K2 has no K/As with importance rating ≥ 2.5. Randomly selected Category K1 with a randomly selected K/A of K1.01.									
1/1	000062 Category K1	Category K1 contains no K/As. Randomly selected another category (K2). This category also contains no K/As. Continued random selection of categories and obtained Category A2, with a K/A of A2.02.									
1/1	000065 Category K2	Category K2 has no K/As with importance rating ≥ 2.5. Randomly selected Category K3 with a randomly selected K/A of K3.04.									
1/2	000076AA1.04	Failed fuel monitor not part of current design basis at Watts Bar. Since there were no other K/As in Category A1 with importance rating $\geq$ 2.5, selected another Category, obtaining Category Generic. Note: this Category re-selection was not entirely random, but was implemented in order to improve sampling balance in Category Generic, for Tier 1, Group 2. After selecting G Category, performed a random sample, and obtained G2.2.38.									
2/1	005K5.04	Low importance rating (2.1). Randomly resampled and obtained 005K5.09.									
2/1	039 Category K6	Category K6 has no K/As with importance rating $\geq$ 2.5. Randomly resampled and obtained Category K5.									
2/1	078 Category K5	Category K5 has no K/As with importance rating $\geq$ 2.5. Randomly resampled and obtained Category K1.									
2/1	103 Category K6	Category K6 has no K/As with importance rating ≥ 2.5. Randomly resampled and obtained Category A2.									
2/1	026A1.05	Chemical additive tank for Cont. Spray not part of Watts Bar design. Randomly resampled remaining K/As in Category A1 and obtained A1.03.									
2/2	033 Category K6	Category K6 has no K/As with importance rating ≥ 2.5. Randomly resampled and obtained Category A4.									
2/2	033 Category A4	Category A4 has no K/As with importance rating $\geq$ 2.5. Randomly resampled and obtained Category G.									
2/2	045K5.08	Low importance rating (1.8). Resampled and obtained K5.10. Resampled repeatedly (due to numerous low importance ratings) until obtaining K5.17.									
2/2	055 Category K4.	Category K4 has no K/As with importance rating ≥ 2.5. Randomly resampled and obtained Category G.									
2/2	056 Category K3	Category K3 has no K/As with importance rating $\geq$ 2.5. Randomly resampled and obtained Category A1.									
2/2	056 Category A1	Category A1 has no K/As with importance rating ≥ 2.5. Randomly resampled and obtained Category K1.									
2/2	068 Category K2	Category K2 has no K/As with importance rating ≥ 2.5. Randomly resampled and obtained Category K6.									
2/2	075K1.05	Low importance rating (2.0). Resampled and obtained K1.02.									
2/2	079 Category K2	Category K2 has only one K/A and it has a low importance rating (2.3). Resampled and obtained Category A1.									

2/2	079 Category A1	Category A1 has no associated K/As. Resampled and obtained Category K5.
2/2	079 Category K5.	Category K5 has no K/As with importance rating $\geq$ 2.5. Resampled and obtained Category A4.
		SRO Examination
Tier / Group	Randomly Selected K/A	Reason for Rejection
3	2.1.28	Not linked to 10 CFR 55.43. Randomly resampled and obtained 2.1.3.
3	2.1.3	Not linked to 10 CFR 55.43. Randomly resampled and obtained 2.1.34.
3	2.4.37	Not linked to 10 CFR 55.43. Randomly resampled and obtained 2.4.31.
3	2.4.31	Not linked to 10 CFR 55.43. Randomly resampled and obtained 2.4.23.
1/1	000022 G2.1.28	Not linked to 10 CFR 55.43. Randomly resampled and obtained 2.1.7
2/2	011 G2.1.31	Not linked to 10 CFR 55.43. Randomly resampled and obtained 2.1.32.

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,

Watts Bar May 2008 Initial License Exam

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E:	3-40	1

## Written Examination Quality Checklist

Form ES-401-6

Pacility:	Watts	Bar	Dat	e of Exam:	04	03/0	😵 Ex	am Levei:	RO 😡 S	SROX
							<u></u>		Initial	
			Item Description					а	b*	c"
1	Questions a	ind answers are to	echnically accurate and ap	plicable to t	he facil	ty.		<u>a</u>	TEN	A
2.	a. N b. Fa	RC K/As are refer acility learning ob	renced for all questions. jectives are referenced as a	available.				AH	TW	Å
3,	SRO questio	ons are appropria	te in accordance with Secti	lon D.2.d of	ES-40	1	w	at	Tan	XH.
· <b>4</b> .	The samplin were repeat	ig process was ra ed from the last 2	ndom and systematic (If m NRC licensing exams, cor	ore than 4 f	RO or 2 RR OL p	SRO qu rogram	uestions office).	NON A	RN	Af
<b>5</b> .	Question du as jadicated the audit the audit the exam the licens other (ex)	plication from the below (check the exam was system exam was comple- inations were de- see certifies that to plain)	license screening/audit ex item that applies) and app natically and randomly deve ated before the license exa reloped independently; or here is no duplication; or	am was co lears appro eloped; or im was star	ntrolled priate: ted; or			D#	TEN	Þ
6.	Bank use me	eets limits (no mo	re than 75 percent	Bank	Mod	lified	Nev	,	1	۵
	from the ban new or modil question dist	ik, at least 10 peri fied); enter the ac tribution(s) at righ	cent new, and the rest tual RO / SRO-only t.	24/1	9	12	f2.12	2 24	nu	A
•••	Between 50 exam are wri	and 60 percent of itten at the compr	f the questions on the RO ehension/ analysis level;	Mem	ory		C/A			ali
	the SRO exa selected K/A the actual RO	im may exceed 6 s support the high 0 / SRO question	D percent if the randomly her cognitive levels; enter distribution(s) at right.	32 1	6	43	119	Q#	no	B
8.	References/t or aid in the	nandouts provided elimination of dist	d do not give away answer: ractors.	S				04	TCN	A
\$I.	Question con examination deviations an	itent conforms will outline and is app re justified.	th specific K/A statements propriate for the tier to whic	in the previ h they are :	ously ar assigne	proved d;		RH	Test	A.
10.	Question psy	chometric quality	and format meet the guide	lines in ES	Аррели	tix B.		OH-	Tes	AS.
11.	The exam co the total is co	intains the require	d number of one-point, mu with the value on the cover	ittiple choic r sheet.	e items;			NH	Tel	A
a. Author b. Facility c. NRC C d. NRC R	Printed Name / Signature     Date       Author     Darrell Hensley / Amel Abender     5/26/08       Facility Reviewer (*)     Terry L. Neoman, "Allowing Multiplication of Stastos     5/28/08       NRC Chief Examiner (#)     Geological Supervisor     5/28/08       NRC Regional Supervisor     Malcourt. Withmann / Multiplication     5/28/08									
Note:	<ul> <li>The facility</li> <li># Independent</li> </ul>	reviewer's initials nt NRC reviewer i	/signature are not applicab initial items in Column "c"; (	le for NRC chief exami	-develoj iner con	bed exa	mination è require	s. ed.		

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## FINAL

E	S-401, R	lev. 9	Watts Ba	r 2008	8-301	SRO	Wri	tten E	Exam	inat	ion I	Reviev	v Wo	Vorksheet Form ES-401-9
0#	1.	2.	3. Psy	chometri	ic Flaws	;	4. Jo	b Conte	ent Flaw	vs	5. (	Other	6.	7.
Q#	(F/H)	(1-5)	Stem Cues Focus	T/F	Cred. Dist.	Partial	Job- M Link	inutia 1	#/ E units v	Back- ward	Q= K/A	SRO Only	U/E/ S	E/ Explanation
			[Refer to	Section	D of E	S-401	and Ap	pendix	B for a	Instri additio	uctions onal in	s nformati	ion reg	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 a	ppropriate	box i	f a ps	ychon	netric f	law is	s iden	ntifie	d:			
	• • • •	The need The The The One cont	stem lacks lless inform stem or di answer ch distractors or more d tradicted b	s suffices mation stractor oices s are n istractor y stem	cient a). ors co are a ot cre cors is a).	focus ntain collec edible; (are)	to elic cues (i tion of single partial	it the .e., cl <sup>*</sup> unrel impl ly cor	corre ues, s lated ausib rect (	ct an speci true/ le di (e.g.,	fic d false strac if th	t (e.g., etermi e stater etors sh le appl	uncle iners, nents nould icant	Iclear intent, more information is needed, or too much rs, phrasing, length, etc). nts. Ild be repaired, more than one is unacceptable. Int can make unstated assumptions that are not
4.	Check • • •	the a The in co The to b The with The	appropriate question i ontent). question r e known fr question c question question r	box i s not l equire com m contair in gall equire	f a jol inked es the emor ns dat .ons). es reve	o cont to the recall y). a with erse lo	ent err e job ro of kno an un ogic or	or is i equire owled; realist applie	denti ment ge tha tic lev cation	fied: s (i.e at is vel o n con	e., the too s f acc npar	e ques pecific curacy ed to t	tion h c for t or ind he jo	n has a valid K/A but, as written, is not operational or the closed reference test mode (i.e., it is not required inconsistent units (e.g., panel meter in percent job requirements.
5.	Check and lice	<u>c ques</u> ense le	tions that a evel misma	are sar atches	<u>npled</u> are u	for contracted	onform ptable)	nance	with	the a	appro	oved K	T/A ai	and those that are <i>designated SRO-only</i> (K/A
6. 7.	Based enhance At a mi	l on th ment, o nimum	e reviewer or (S)atisfact , explain any	r's jud; ory? / "U" rat	gmen tings (e	t, is th e.g., ho	e ques w the A	tion a	ıs wri x B ps	itten sychor	(U)ns	atisfact	ory (re tes are	(requiring repair or replacement), in need of (E)ditorial are not being met).

	·														
	1.	2.		3. Psyc	chometi	ric Flaw	S	4.	4. Job Content Flaws			5.	Other	6.	7.
Q#	LOK (F/H)	LOD (1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
76	Н	3												E	007 EA2.05 Appears to match K/A. Does Watts Bar typically use the term "via"? If not try using "in accordance" with or "using" 1-SI-99-10B. Are these the only first outs or annunciators that will be of significance in this event? Appears to be SRO only. NEW Changed to using instead of VIA. Question SAT 5/20/2008.
77	Η	2												E	022AG2.1.7 Appears to match K/A. In the second part of the questionon the PER by reactor engineering fits grammatically, but Management Review Committee does not. Maybe a "the" in front of management would work. <b>NEW</b> Added the to Management Review committee. <b>SAT</b> <b>5/20/2008.</b>

	1.	2.		3. Psyc	chometr	ric Flaw	s	4.	Job Con	tent Fl	aws	5.	5. Other		7.
Q#	LOK (F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
78	Η	2	X	×									Х	U	025AA2.01 Appears to match the K/A. Not SRO only. Stem Focus is giving the applicant a cue. And the mitigating strategy in accordance with GO-10. The other actions are in accordance with AOPI 14.0. The applicant need only know is what is happening to motor amps. This question can then be answered with only systems knowledge, making it an RO question. Need to reword stem. NEW Removed several items from stem, appears to be SRO only knowledge. Changed distractors B and D. Changed all implements to enter. SAT 5/20/2008.
79	Н	2											X	U	027AG2.4.6 Appears to match K/A. Question is not SRO only. Knowledge of EOP immediate operator actions is RO knowledge, along with the entry conditions for FRP-S.1. Would AOP actions apply? Secure the RCP in that loop? <b>NEW</b> <b>Completely changed question, replaced it with a bank question, and them modified it. SAT</b> 5/20/2008.

	1.	2.		3. Psyc	chometr	ric Flaws	S	4.	4. Job Content Flaws			5. Other		6.	7.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
80	Η	2										×	X	U	058AA2.01 Question does not appear to match K/A. A loss of DC has not occurred. Also may not be SRO only, although this information is listed in the T/S basis, it is typically system knowledge. (How long are the batteries supposed to last. With this K/A, we should be going into the loss of DC AOI, or something similar. <b>NEW</b> <b>Replaced Question with a new question. Need to add correct breaker ID.</b> <b>Otherwise SAT 5/20/2008.</b> <b>Made changes as requested. SAT 5/21/2008</b>
81	Н	2										X		U	<ul> <li>W/E11G2.2.22 Question does not appear to match K/A. Appears to be SRO only. There is not a loss of emergency coolant Recirc. in the question, only a possible loss of swapover capability.</li> <li>NEW</li> <li>Replaced question with another new question. SAT 5/20/2008.</li> </ul>
82	F	2										x	x	U	059AA2.03 Question does not appear to match the K/A. The question really asks what is required if a normal release is interrupted. Need to attempt to cover the failure modes, symptoms and the cause of misleading indicators. This question is not SRO only also. This is the process for restarting a release. <b>NEW</b> <b>Gerry to select New K/A.059AA2.02</b> <b>Wrote new question SAT 5/22/2008</b>

	1.	2.		3. Psyc	chometr	ric Flaws	S	4.	Job Con	tent Fl	aws	5.	Other	6.	7.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
83	Η	2					X							E	068AG2.4.8 Question appears to match K/A. Appears to be SRO Only. It appears that the correct answer (D) Does not allow any actions from the EOP (as answer is written). Are we sure that entry into the EOPs are <u>NOT</u> allowed. The terminology in distractor C states that the AOP and EOP will be entered and that the EOP takes precedence, but in D it appears that no actions of the EOP are allowed. I just want to make sure this is correct. Also is there an EOP that would be used in conjunction with the AOI? BANK Rewrite question using AOI-27 Keep same K/A. Completely rewrote question SAT 5/21/2008
															SAT 5/21/2008
84	Н	2												s	W/E13 EA2.1 Question appears to match K/A. Question appears to be SRO only.
															Distractor analysis is incorrect on a and b. The transition to H.3 is directed on H.2.
															Otherwise SAT
															NEW
															SAT 5/20/2008.

	1.	2.		3. Psy	chometi	ric Flaws	3	4.	Job Con	tent Fla	aws	5.	Other	6.	7.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
85	H	3		x										U	W/E08 G2.4.18 Question borderline on matching K/A. Appears to be SRO only. It does contain the basis for one step, but it also tests transitions. Teaching in stem, both the step listed is considered teaching, and the flow path in stem E-1 to Z.1 to P.1. This needs to be addressed. NEW Tabled (C and D distractors need work to be more plausible 5/20/2008
															Replaced distractors C and D SAT 5/22/2008
86	Н	2				x							Х	U	003A2.05 Question matches K/A in a backwards logic method. Not SRO only. Why would you leave the other pumps off if all of their criteria were sat. A and C distractors not credible. <b>NEW</b>
															Still needs work. 5/20/2008. Made changes as requested. SAT 5/21/2008
87	Н	2											X	U	012G2.2.44 Question appears to match K/A. Is not SRO only, this question can be answered using systems knowledge. 1) What is the power supply to the MFRVs. 2) What happens when the RT breakers loose power? (UV coils drop out and breaker opens). This question may be complicated, but can still be answered using only systems knowledge.
															NEW
1															Rewrote question appears to be SAT 5/20/2008.

	1.	2.		3. Psyc	chomet	ric Flaw	5	4.	Job Con	tent Fla	aws	5.	Other	6.	7.
Q#	LOK (F/H)	LOD (1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
88	H	2												S	061A2.09 Question appears to match K/A. Appears to be SRO only SAT. NEW
89	H	2												U	064G2.2.37 Question appears to match K/A. Appears to be SRO only. It appears by reading your distractor analysis that A is the correct answer, however the analysis states that D is the correct answer. Need to ensure that this reference will not answer any questions on the other SRO questions, or the RO questions. This reference can not allow the applicants to rule out other distractors on any of these questions. This question is Unsat until the correct answer is determined. <b>NEW</b> A was correct, but with further investigation the term available is not applicable for TS. Need to rework question to work availability into answer. 5/20/2008. Work in progress appears to be a good start. Question SAT 5/22/2008
90	Н	2									X			U	076A2.01 Kind of meets K/A. Although the PSA risk assessment is high level, and would not be considered until after the mitigating actions are completed. It appears in the distractor analysis that the question may not be technically correct, analysis for B states: plausible since crosstie is done for various other situations, but not this one. Yet, this is the correct answer listed in D. this question will be listed as Unsat until the technical issues are addressed. May want to move the PSA risk

0"	1.	2.		3. Psy	chometr	ric Flaws	s	4.	Job Con	tent Fla	aws	5.	Other	6.	7.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
															statement to the second part of the answer. NEW Got second opinion for FJE .Changed as requested, also changed B D/G to A D/G. Some distractor analysis otherwise SAT.
91	Η	2				X								U	011G2.1.32 Question appears to match K/A. Appears to be SRO only. Distractors B and C are not credible. Why would any one pick Condition C (Completion time of condition B not met) if condition B was not the statement of concern? The distractor analysis does not match the actual distractors. I believe that D is the correct answer. I also don't believe that there is a procedure for preventing a lockout on low pressurizer level and heater shutoff. I believe that there are actions that would help prevent level from getting that low and maintain the heaters energized. This question needs a lot of work. And with two non plausible distractors is Unsat. NEW upon further review, the K/A is not being met. Continue to work. 5/20/2008. Made changes to all distractors using reasons. SAT 5/21/2008
92	F	2											x	U	075A2.03 Question appears to match K/A. Is not SRO only. Understanding how the water box delta T responds to the dumps being closed and procedure entry requirements are RO knowledge. Unsat
															NEW Made changes to add notifications to make

0"	1.	2.		3. Psy	chometr	ic Flaws	5	4.	Job Con	tent Fla	aws	5.	Other	6.	7.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
															SRO only. SAT 5/20/2008.
93	Η	2				х								U	086G2.4.9 Good attempt at matching a tough K/A. Appears to be SRO only. Do you have procedure direction to cross connect SFP cooling and RHR systems to keep the core cooled? If so, under what conditions would this lineup be allowed? If not, distractors B and D are not credible. NEW Licensee does have a procedure that allows the cross connect between the SFP and RHR. SAT 5/20/2008.
94	F	2				x								E	G2.1.23 Question appears to match K/A. Appears to be SRO only. Distractor B is not plausible as written the Spent fuel pool is full of irradiated assemblies. So why would anyone pick this one? NEW To be fixed on 5/21/2008 Made changes to question SAT 5/21/2008
95	F	2												S	G2.1.34 Question appears to match K/A. Appears to be SRO only. NEW SAT 5/20/2008.

	1.	2.		3. Psyc	chometr	ic Flaw	S	4.	Job Con	tent Fl	aws	5.	Other	6.	7.
Q#	LOK (F/H)	LOD (1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
96	F	2											x	U	<ul> <li>G2.2.40 Question appears to match K/A. Is not SRO only. This is a less than 1 hour technical specification and is required knowledge of ROs. Need to change to a topic that is greater than one hour. This question has been on several RO exams.</li> <li>Replaced with a NEW question. SAT 5/20/2008.</li> </ul>
97	F	2												S	G2.3.6 Question appears to match K/A. Appears to be SRO only. SAT NEW SAT 5/20/2008.
98	F	2												E	G2.3.15 Question appears to match K/A. Appears to be SRO only. Remove the Since from distractors B and C. Use RM-90-102 output will be blocked during the source check: the SRO willDoes this monitor start a particular train if so which one? This should also be listed (i.e. B train ABGTS will be inoperable.) NEW Ask Phil to get a second opinion. (ABGTS autostarts) Question Okay SAT 5/22/2008

CH       LOK (F/H)       LOU (1-5)       Stem Focus       Cues       T/F       Cred. Dist.       Partial Link       Job. Units       Minuta       #/ ward       Back- units       Q=       SRO Ward       U/E       Explanation         99       H       2       Image: Strong transformed transfor		1.	2.		3. Psyc	chometr	ic Flaws	S	4.	Job Con	tent Fla	aws	5.	Other	6.	7.
99       H       2         99       H       2         100       H       2         100       H       2         X       X         E       G2.4.23 Question appears to match K/A. It is NOT SRO only. Entry conditions for ECA 0.0 are RO knowledge, Immediate actions are RO knowledge, and the notes prior to the immediate action steps a RO knowledge (they apply).         BANK       Rewrite using SGTR and FR P.1 entry or not. S/ 5/20/2008. question rewritten question SAT 5/21/2008.         100       H       2         X       X       E         G2.4.29 Question appears to match the K/A. Appears to be SRO only. Distractor D is not plausible. If you declare any event you must repor within 1 hour. Therefore no one will choose D. NEW         Changed times to be 1 hour and 15 minutes. S	Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
100       H       2         100       H       2         X       X         X       X         B       G2.4.29 Question appears to match the K/A.         Appears to be SRO only. Distractor D is not plausible. If you declare any event you must repor within 1 hour. Therefore no one will choose D.         NEW         Changed times to be 1 hour and 15 minutes. S	99	H	2												U	G2.4.23 Question appears to match K/A. It is NOT SRO only. Entry conditions for ECA 0.0 are RO knowledge, Immediate actions are RO knowledge, and the notes prior to the immediate action steps are RO knowledge (they apply). BANK Rewrite using SGTR and FR P.1 entry or not. SAT 5/20/2008. question rewritten question SAT 5/21/2008.
5/20/2008.	100	Η	2				х								E	G2.4.29 Question appears to match the K/A. Appears to be SRO only. Distractor D is not plausible. If you declare any event you must report within 1 hour. Therefore no one will choose D. <b>NEW</b> Changed times to be 1 hour and 15 minutes. SAT 5/20/2008.

4 Sats

15 Unsats 6 Enhancement

## FINAL

	1.	2.		3. Psyc	hometr	ic Flaw	6	4.	Job Con	tent Fla	aws	5.	Other	6.	7.
Q#	LOK (F/H)	LOD (1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	/ Explanation
			[Ref	fer to S	Section	n D of E	ES-401	and A	ppendi	x B for	Instr additi	uction: onal ii	s nformati	on reg	egarding each of the following concepts.]
•	Enter	the le	vel of	knov	vledg	e (LC	K) of	each	quest	ion a	s eith	er (F	)undan	ienta	al or (H)igher cognitive level.
2.	Enter accept	the le able)	vel of	diffi	culty	(LOE	) of e	ach q	uestio	n usi	ng a 1	1 – 5	(easy -	- diff	fficult) rating scale (questions in the 2 – 4 range are
••	Check	the a	pprop	oriate	box i	f a ps	ychon	netric	flaw	is ide	ntifie	d:			
	• •	The The The One cont	answeit answeit distra or me radict	nforn or dis er che actors ore di ced by	nation stracto oices are n istract	1). ors co are a ot cre tors is 1).	ntain collec dible; (are)	cues tion o sing parti	(i.e., c of unro le imp ally co	lues, elatec lausi orrect	speci l true/ ble di (e.g.,	fic d false strac , if th	etermi e staten etors sh ne appli	ners, nents ould icant	s, phrasing, length, etc). ts. d be repaired, more than one is unacceptable. It can make unstated assumptions that are not
ŀ.	Check • • •	the a The in co The to be The with The	pprop quest ontent quest e knov quest quest quest	oriate ion is ). ion re wn fre ion c tion i ion re	box i s not l equire om m ontair n gall equire	f a jol inked es the emory is dat ons). es reve	o cont to the recall y). a with erse lo	ent e e job of kı an u ogic c	rror is requir nowled nrealis	ident emen lge th stic le icatic	ified: its (i.e nat is evel o on con	e., the too s f acc npar	e quest pecific curacy ed to th	ion h for t or inc ne jot	has a valid K/A but, as written, is not operational the closed reference test mode (i.e., it is not require neonsistent units (e.g., panel meter in percent ob requirements.
j.	Check and lice	ques nse le	tions ( evel m	<u>that a</u> nisma	<u>re sar</u> tches	npled are u	for con	onfor ptable	mance e).	e with	the a	appro	oved K	/A an	and those that are <i>designated SRO-only</i> (K/A
•	Based enhancer	on th ment, c	e revi or (S)at	ewer'	's judg bry?	gmen	t, is th	e que	estion	as wr	ritten	(U)ns	atisfacto	ory (ree	equiring repair or replacement), in need of (E)ditorial

<u> </u>	1.	2.		3. Psy	chometr	ric Flaws	S	4.	Job Con	tent Fl	aws	5.	Other	6.	7.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
1	Н	2												s	007 EK3.01Question appears to match K/A. NEW
2	Н	2												s	009EK2.03 Question appears to match K/A. NEW
3	H	2				X								U	015/017AK1.03 Question appears to match K/A. Distractors B and D are not plausible. 10% power may be the power required to allow entry to inside the polar crane wall, but there is nothing that states entry is required. Also, distractors C and D are subsets of A and B. A and B also lower power to less than 10%. This question needs some work, <b>NEW</b> Gerry to Select new K/A. (5/21) 015AK1.0 (5,2,4)
4	Н	2												s	022G2.4.31 Question appears to match K/A. SAT. Consider adding "assume no operator action" NEW SAT 5/21/2008
5	Н	2				х								U	025AK3.02 Question kind of matches K/A. Distractors C and D do not appear to be plausible. How does stopping one or two CCPs ensure that a relief path is provided? The whole upper portion of the stem could be covered up and the question started with Section 3.4 and that would make it a memory level question. <b>NEW</b> <b>Completely changed the question SAT 5/21/2008</b>

~ "	1.	2.		3. Psyc	chometr	ric Flaws	S	4.	Job Con	tent Fla	aws	5.	Other	6.	7.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
6	H	1				x								U	026AA1.02 Question kind of matches the K/A. Very little discriminatory value. The first portion of the stem could be removed it is just window dressing. It could also be asked which one of the following is the setpoint for isolating the sample heat exchanger? The question is only monitoring one load. Try giving the alarm and state what would have happened or something like that. Distractors a and d are not really credible. NEW Replaced Question SAT 5/21/2008
7	F	2	X											U	027AA2.02 Question appears to match K/A. Distractor analysis appears to be incorrect. One set of analysis states that the Reactor trip for an SI will maintain subcooling and one states that the trip will occur from the RPS. It seems like this question was modified from one at 5% reactor power. You have it listed as <b>NEW</b> . I believe the trip will ensure that DNB does not occur, but if pressure continues to fall subcooling will be lost with the reactor critical or not. Are we sure that the reason for the trip is to maintain subcooling? <b>MODIFIED?</b> <b>After discussion, changed subcooling to DNB,</b> <b>question appears to be SAT 5/21/2008</b>
8	H	2					x							S	038G2.2.40 Question appears to match the K/A. Appears to be SAT. NEW SAT 5/21/2008

	1.	2.		3. Psyc	chometr	ric Flaws	S	4.	Job Con	tent Fl	aws	5.	Other	6.	7.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
9	Н	2				X								U	040 (W/E12) EA2.2 Question appears to match K/A. The reference material that you included with the question refers to E-2 not ECA-2.1. However I checked ECA-2.1 and the actions appeared to be the same, except in ECA-2.1 it had the steps performed on 1 SG at a time. Does this need to be included in the question? Why would someone think the amber light indicates that a valve is closed? Does an amber light ever indicate that a valve is closed at this plant? This would make the two distractors not plausible <b>NEW</b> <b>Changed Question SAT 5/21/2008.</b>
10	Η	1		X										U	055EA1.01 Question does not meet the K/A. This question is asking why they are monitored. It does not determine the ability of the operator to monitor them during a station blackout. This question needs to be re-written or replaced. <b>NEW</b> <b>Replaced Question SAT 5/21/2008.</b>
11	Η	2										X		U	057AK3.01 Question does not match K/A. The K/A states: Knowledge of the <u>reasons</u> for the following responsesReasons need to be included in the responses. <b>NEW</b> Added reasons for actions SAT 5/21/2008.

0.4	1.	2.		3. Psy	chometr	ric Flaw	s	4.	Job Con	tent Fl	aws	5.	Other	6.	7.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
12	Η	2												?	058AK1.01 Question appears to match K/A. Do you typically test on Unit II components? Does Unit II have any vital loads? If not why are we testing on battery IV? If this battery has some purpose and effect unit one operation it may be okay. We need to discuss this. NEW (Second opinion by FJE) Changed Diesel to 2B-B. This changed the answer to A. SAT 5/21/2008
13	Η	2												S	062AA2.02 Question appears to match K/A. For easier reading may want to move 1A from the distractor up into the stem. Otherwise. SAT BANK SAT 5/21/2008
14	F	2												S	065AK3.03 Question appears to match K/A. This question could have been asked at a higher cognitive level. SAT NEW SAT 5/21/2008

	1.	2.		3. Psy	chometr	ric Flaw	S	4.	Job Cont	tent Fl	aws	5.	Other	6.	7.
Q#	LOK (F/H)	LOD (1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
15	Н	2									х			U	W/E04EK3.3 Question does not match K/A. The K/A asks for reasons. No reasons are listed in the distractors. Need to develop a question covering reasons for actions. For example, why are the valves in ECA 1-2 checked in the order that they are checked in? (Largest leak probabilities. can be checked from the control room etc.) BANK Changed stem and distractor C. SAT 5/21/2008
16	F	2												s	W/E11EA1.3 Question appears to match K/A. SAT NEW SAT 5/21/2008
17	F	2				X								U	W/E05EA2.2 Kind of matches K/A. Distractors A and C are essentially the same thing (thermal shock and damage to some S/G component). Distractor D (the correct answer) assumes a failure of HHSI. If this is assumed why can an applicant not assume improper operation of the primary PORVs, which would make B correct. The reference that you provided with the question does not support the correct answer. Unsat. BANK Changed distractors, and order SAT 5/21/2008.
18	F	2												S	077G2.1.20 Question appears to match K/A. SAT NEW SAT 5/21/2008

<u> </u>	1.	2.		3. Psyc	chometr	ic Flaws	5	4.	Job Cont	tent Fla	aws	5.	Other	6.	7.
Q#	LOK (F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
19	Η	2				X						×		U	001AK2.01 Question does not meet the K/A. The question meets the first part, but is nothing more than rods insert/withdraw and how fast they will move. Need to attempt to match the K/A with something about the step counters for example will indicate the same as DRPI Or IRPI, or with x steps of DRPI etcetera. Distractors b and d not credible. This is manual speed of the shutdown banks. If you are going to use the speed of manual it should at least be what is capable of the control banks. BANK (Second opinion by FJE) Changed stem and choices SAT 5/21/2008
20	Н	2												S	028AK1.01 Question appears to match K/A. SAT Need a copy of original question to determine if it is modified as listed. MODIFIED SAT 5/21/2008
21	Η	2				X								E	032AK2.01 Question appears to match K/A. Distractor C is not credible. Why would the Rector trip if the channel is in bypass and not trip in normal. This does not make sense. Distractor analysis for A, B, and C are not correct. Question is listed as an enhancement, but need to determine another distractor C prior to allowing on exam. <b>BANK</b> Changed the stem and distractors. <b>SAT 5/21/2008</b>

0"	1.	2.		3. Psy	chomet	ric Flaw	3	4.	Job Con	tent Fla	aws	5.	Other	6.	7.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
22	F	2												S	Question appears to match K/A. SAT NEW SAT 5/21/2008
23	Η	2												?	067AA1.07 Question loosely matches K/A. If convinced that the question meets the K/A. then question is SAT. The K/A asks for resetting the fire alarm Panel. This question asks for when the fire alarm (similar to an evacuation alarm and controlled from the control room) can be reset. I believe that resetting the local panel in accordance with SOI- 13.01 section 6.2 is what the K/A is asking for. Will discuss. <b>NEW</b> <b>Will rewrite Question 5/21/2008.</b> <b>Question rewritten</b> <b>SAT 5/22/2008</b>
24	Н	2												S	069(W/E14)EA2.1 Question appears to match K/A. SAT BANK SAT 5/21/2008
25	F	2												Е	076G2.2.38 Question meets K/A. Suggest changing stem to readRCS specific activity allowed without exceeding the TS limit. BANK SAT 5/21/2008

	1.	2.		3. Psy	chometr	ric Flaws	6	4.	Job Con	tent Fl	aws	5.	Other	6.	7.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
26	F	1				x								U	W/E02EK3.2 Question appears to match K/A. Low discriminatory value. Distractor B and D do not appear to be plausible. B would be more plausible if it stated to confirm a secondary heat sink was required. Why would you secure RCPs if you were in SI termination? These need some work. <b>BANK</b> Changed distractors as requested. <b>SAT 5/21/2008</b>
27	F	2				x								U	W/E13EK2.1 Question appears to match K/A. Not sure if distractors A and B are plausible. I will get a second opinion. I don't think a reference is required. Will discuss. BANK Replaced Question SAT 5/21/2008
28	F	2										· · ·		E	003K3.04 Question appears to match K/A. Stem should state will cause a reactor trip signal. B distractor does not seem plausible. BANK Rewrote question SAT 5/21/2008
29	F	1												S	004K4.14 Question kind of matches K/A. This question is similar in topic to #4. Not very discriminating. Will discuss. BANK Revise to take out alarm aspect. 5/21/2008. Revised will look at later.
30	Η	2												S	005K5.09 Question appears to match K/A. SAT NEW (Need to ensure this is a requirement as stated in stem) SAT 5/21/2008

0"	1.	2.		3. Psy	chometr	ric Flaw	s	4.	Job Con	tent Fl	aws	5.	Other	6.	7.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
31	Η	1				x								U	006K6.02 Question appears to match K/A. Distractor A is not plausible. Three of the CLAs are enough to flood up to the lower core plate (they do not actually cover the core) So A should state: remains capable, since the contents of two operable CLAs is all that is required to provide an adequate inventory of borated water to meet the Distractors C and/or D as written are not plausible in that should an applicant remember the TS values, and both of these are outside the value, and both can't be correct, then neither would be correct and therefore would not choose either. <b>NEW</b> <b>Replaced Question with a new question.</b> <b>SAT 5/21/2008</b>

	1.	2.		3. Psyc	chometr	ic Flaws	S	4.	Job Con	tent Fla	aws	5.	Other	6.	7.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
32	Η	1				X								U	007A1.02 Question appears to match K/A. Distractors A, C and D are not plausible. There is not a PRT on any Westinghouse plant that has a vent that automatically opens to lower pressure (that is one reason they have a rupture disk). Normal level in most Westinghouse PRTs is about 75% to allow for quenching the exhaust from a relief that has listed so why would anyone believe that A is plausible. Also B is the only distractor that has an alarm that will annunciate (just happens to be at the correct setpoint, so as written all the applicant need remember is the setpoint. <b>NEW</b> <b>Rewrote Question. SAT 5/21/2008</b>
33	Н	2												E	008A2.02 Question appears to match K/A. Distractor A is not plausible. Replace distractor. BANK Replaced distractor as requested. SAT 5/21/2008
34	Η	2												S	010A3.01 Question appears to match the K/A. SAT NEW SAT 5/21/2008
35	Н	2												S	010K1.08 Question appears to match the K/A. SAT <b>NEW</b> (need to say just pressurizer control system in stem or the second half of the distractors are not applicable). Added Pressurizer Pressure/Level Control. <b>SAT 5/21/2008</b>

0,	1.	2.		3. Psy	chometr	ic Flaws	S	4.	Job Cont	ent Fla	aws	5.	Other	6.	7.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
									-						
36	Н	2										х		U	012G2.4.31 Question does not meet the K/A. The K/A is for the reactor protection system, and the correct answer on this question is an ESF function. <b>NEW</b> <b>Replaced Question. SAT 5/21/2008</b>
37	Н	2				x								Е	013A4.02 Question appears to match K/A. Can the Hi-Hi containment pressure main steam isolation signal ever be blocked? If not distractors A and B are not plausible. <b>NEW</b> <b>Rewrote Question. SAT 5/21/2008</b>
38	F	2												S	022A3.01 Question appears to match the K/A. SAT NEW SAT 5/21/2008
39	Н	2												S	025A2.05 Question appears to match K/A. SAT NEW SAT 5/21/2008
40	F	2												S*	026A1.03 Question appears to match K/A. *Question is very similar to #16. May have to replace one of them (otherwise SAT) NEW SAT 5/21/2008
41	н	2						-						S	039K5.08 Question appears to match K/A. SAT <b>Modified</b> (need to see original question to verify that it is modified. <b>SAT 5/21/2008</b>

0,4	1.	2.		3. Psyc	chometr	ic Flaws	s	4.	Job Con	tent Fla	aws	5. (	Other	6.	7.
Q#	(F/H)	LOD (1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
42	Н	2				х								U	039A2.03 Question appears to match K/A. Not sure that the second part of distractors Band D are plausible. NEW Removed second parts of B and D SAT 5/21/2008
43	Η	2				Х								U	059K4.05 Question appears to match K/A. Distractor D is not plausible; it is the only one with the FRV initially going open. Distractor Bs reason is not plausible. Also in two of the distractors FW is used and the other two feedwater is used. Need to be consistent. BANK Rewrote distractors. SAT 5/21/2008
44	Н	2												S	061K3.02 Question appears to match K/A. SAT BANK SAT 5/21/2008
45	F	2												S	062K2.01 Question appears to match K/A. The drawing that were provided were for the 1A Hotwell pump (instead of 1B), and 1A#3 Heater Drain Pump (instead of 1B#3 heater drain pump). Otherwise SAT. NEW SAT 5/21/2008
46	Н	2												E	063K1.02 Question appears to match the K/A. Distractor D is not plausible, why would anyone think that the breaker could not be tripped mechanically? BANK Changed distractor D. SAT 5/21/2008

0"	1.	2.		3. Psyc	chomet	ric Flaw	s	4.	Job Con	tent Fl	aws	5.	Other	6.	7.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
47	F					* *								S	064K2.02 Question appears to match K/A. (again we are testing U2 power supplies, do these supply anything on U2? Are they still covered by TS, and will they have an impact on U1?) NEW SAT 5/21/2008
48	Н	2												S	064K4.05 Question appears to match K/A. Distractor analysis for C does not appear to be correct. Otherwise SAT BANK Verify that D is not Correct. SAT 5/21/2008
49	F	2												E	073K3.01 Question appears to match K/A. Would this monitor ever get a high alarm if flow through it were lost? If not (unless background got to the setpoint). D could be a correct answer. Need to investigate. BANK Changed distractor D. SAT 5/21/2008
50	F	2												S	073G2.4.35 Question appears to match K/A. SAT NEW Changed stem. SAT 5/21/2008
51	F	2												E	076K4.03 Question appears to match K/A. Remove the part of the stem that states you are the CRO. Which one of the following describes the required positions for the listed ERCW valves IAW E-0 Appendix A Equipment Verification? (Does FCV-67- 144 have a position A? if so the throttled distractors should be opened to position A also. What does position B do? BANK

014A2.02 Question appears to match K/A. Teaching in stem, by informing the applicant that one CERPI display is dark. Allow the applicant to diagnose. Misch one of the following describes the impact on RPI, and what is required for? <b>NEW</b>											x		5	Н	99
TAS .A\A not con appears to match K\A. SAT WBW 8002\rS\2 TAS	S												5	Н	99
103A2.05 Question does not meet K/A as written. The question addresses the impacts of the malfunction. But does not address use procedures to correct, control or mitigate the consequences, during and emergency entry. What action will allow operation to continue? Etc. this is what needs to be covered. This question as written is also at the fundamental level it requires memory of T/S. MEW	Π		x										5	F	44
A/X for appears to match K/A. TAS WEW SAT 5/21/2008	S												2	Н	63
Changed to 1B CCP. SAT 5/21/2008 OTEN MEW Changed to 1B CCP. SAT 5/21/2008	S												5	H.	25
noitsnsiqx⊐	S /J/F/	klnO SRO	K/∀ 07=	ward Back-	stinu /#	នាំរបារស	rink -dot	भवतीव।	Cred. Dist.		sən	suco Stêm	(q-L)	(ц/ч)	******
·Z	.9	Other	9.8 	SMI	sl'i tne:	tno⊃ doL			swel-1 o	internod:	S. Psyc		ron s	ΓΟΚ ι	#D

0.4	1.	2.		3. Psyc	chometr	ic Flaws	S	4.	Job Cont	tent Fla	aws	5.	Other	6.	7.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
															Changed question as requested. SAT 5/21/2008
57	F	2												Е	028A1.02 Question appears to match K/A. Is the second value in the question the design limit of H2 for a design basis LOCA, if so, why would anyone ever have to sample for H2, Just put the recombiner in service. I believe this to be the value that would be acceptable to place the recombiner in service. Explain. The SOI you included states 5% is the limit for placing a recombiner in service. <b>NEW</b> <b>Changed Stem SAT 5/21/2008</b>
58	Н	1.5												S	033G2.2.36 Question appears to match K/A. Distractor analysis for A in incorrect. Very little discriminatory value. Otherwise SAT NEW Verify Power supplies, made changes to make guestion easier to read. SAT 5/21/2008
59	н	2												s	045K5.17 Question appears to match K/A. SAT <b>BANK</b>
60	F	2												S	055G2.4.3 Question appears to match K/A. SAT NEW Changed all distractors to shorten them (moved items into stem) SAT 5/22/2008
61	F	2												E	056K1.03 Question appears to match K/A. Can the unit be at 100% power on only 1 MFP? If both MFPs are required for 100% power, then remove the second bullet. As written distractor A is not plausible.

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0#	1.	2.		3. Psyc	chometr	ric Flaw	s	4.	Job Cont	ent Fl	aws	5.	Other	6.	7.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation
															NEW Made changes to stem SAT 5/22/2008
62	Н	2												S	068K6.10 Question appears to match K/A. SAT NEW SAT 5/22/2008
63	F	2												U	075K1.02 Question appears to match K/A. Distractors A and B do not appear to be plausible. Need to find either two other distractors or another way of using C and D. C, along with something wrong, and C along with something right. Etc. BANK Added directly to stem. SAT 5/22/2008
64	Η	2												S	079A4.01 Question appears to match K/A. SAT BANK SAT 5/22/2008
65	Н	2												S	086K3.01 Question appears to match K/A. SAT Modified Need to see original question. Reference is okay as long as it does not answer any other questions or cause distractors to be eliminated on either the RO or SRO exam. <b>MODIFIED</b> SAT 5/22/2008

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.		
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation		
66	Η	2												E	G2.1.5 Question appears to match K/A. Why do you state that two SRO are required in the stem? Operator should know the shift staffing requirements for licensed individuals. Remove the in addition to the two licensed SROs from the stem and add it to the choices. Need to see the original question that was modified. This is also very similar to Admin JPM. <b>MODIFIED</b> <b>Changed distractors, SAT 5/22/2008</b>		
67	F	2												S	G2.1.28 Question appears to match K/A. SAT BANK SAT 5/22/2008		
68	F	2												S	G2.1.36 Question appears to match K/A. SAT Need to see the original question that was modified. MODIFIED SAT 5/22/2008		
69	F	2												E	G2.2.12 Question appears to match K/A. Need to make sure the SR statement will not aid answering any of the SRO questions. Need to add every to the SR statement and every 12 hours thereafter. BANK Made changes as requested. SAT 5/22/2008		
0#	1. LOK (F/H)	2.	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.		
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Q#		(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation		
70	Η	2				x								U	G2.2.24 Question appears to match K/A. Distractor C and D are not credible. I do not know of a Westinghouse plant where the AFW FCV fail closed. Need to replace these distractors. NEW This was performed on a JPM. Change Question. New Question required 5/22/2008		
71	F	2												Е	G2.3.7 Question appears to match K/A. Change distractor A to read 100mr. Also D distractor analysis is missing total expected dose is greater thanThis should be added to distractor D. area where total expected dose is greater than 5 mrem. <b>NEW</b> Ensure correct RCI is reference and that D is actually incorrect. 5/22/2008		
72	F	2				х								U	G2.3.14 Question appears to match K/A. Distractors A and C not plausible. It appears that the pressurization unit is already running, so let the action for A and C be "Start the MCR emergency Pressurization Fans" NEW Upon further discussion agreed to leave question as is. SAT 5/22/2008		
73	F	2												S	G2.4.13 Question appears to match K/A. SAT BANK SAT 5/22/2008		

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Q#	1. LOK (F/H)	2.	3. Psychometric Flaws						Job Con	aws	5. Other		6.	7.		
		(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/ S	Explanation	
74	F	2												S	G2.4.37 Question appears to match K/A. SAT BANK SAT 5/22/2008	
75	F	2												S	G2.4.42 Question appears to match K/A. SAT NEW SAT 5/22/2008	
38 Sats 21 Unsats 12Enhancement 3 <b>?</b>																

(*) The facility reviewer' two independent NF	d. NRC Supervisor (*)	c. NRC Chief Examiner (*)	b. Facility Reviewer(*)	a. Grader		6. Performance on mix deficiencies and wo of questions missed	5. All other failing exar are justified	4. Grading for all bord as applicable, ±4%	3. Applicants' scores c (reviewers spot che	2. Answer key change and documented	1. Clean answer shee			Facility: WATTS BAR	
signature is not applicable for examinations Creviews are required.	MALCULT. MOMANN Andra	Geard LASKAL LENAMUST	NA (SEE other Suber)	Craig Kowrz/ Salt	Printed Name/Signature	ed questions checked for training ling problems; evaluate validity by half or more of the applicants	inations checked to ensure that grades	line cases (80 ±2% overall and 70 or 80, n the SRO-only) reviewed in detail	ecked for addition errors k > 25% of examinations)	and question deletions justified	copied before grading	em Description		Date of Exam: Jule 03, 208 Exam	Quality Checklist
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