# **Examination Preparation Checklist**

### Form ES-201-1

Facility: Su	mmer Unit 2 Date of Examination	2016
Developed by	y: Written: Facility 🗹 NRC 🗌 // Operating Facility 🗹 NR	c 🗌
Target Date*	Task Description (Reference)	Chief Examiner's Initials
-180	1. Examination administration date confirmed (C.1.a; C.2.a and b)	MB
-150	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	MB
-150	3. Facility contact briefed on security and other requirements (C.2.c)	NB
-150	4. Corporate notification letter sent (C.2.d)	MB
[-120]	5. Reference material due (C.1.e; C.3.c; Attachment 3)	MB
{-90}	<ol> <li>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, ES-401-1/2, ES-401N-1/2, ES-401-3, ES-401N-3, ES-401-4, and ES-401N-4, as applicable (C.1.e and f; C.3.d)</li> </ol>	mB
{-85}	<ol> <li>Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)</li> </ol>	MB
{-60}	<ol> <li>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, ES-401N-6, and any Form ES-201-2, ES-201-3, ES-301-1, or ES-301-2 updates), and reference materials due (C.1.e, f, g and h; C.3.d)</li> </ol>	MB
-45	9. Written exam and operating test reviews completed. (C.3.f)	MB
-30	10. Preliminary license applications (NRC Form 398's) due (C.1.I; C.2.g; ES-202)	MB
-21	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	MB
-21	12. Examinations reviewed with facility licensee (C.1.j; C.2.f and h; C.3.g)	MB
-14	13. Final license applications due and Form ES-201-4 prepared (C.1.I; C.2.i; ES-202)	MB
-14	<ol> <li>Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)</li> </ol>	MB
-7	15. Facility licensee management queried regarding the licensee's views on the examination. (C.2 j)	MB
-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 5; ES-202, C.2.e; ES-204)</li> </ol>	WB
-7	17. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k)	MB
-7	18. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	WB

\* 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.

[Applies only] {Does not apply} to examinations prepared by the NRC.

**Examination Outline Quality Checklist** 

ES-201

### Form ES-201-2

racinty	VCS UNIT 2 Date of Examination: 7	-12	- / 6	?
Item	Task Description		Initial	s #
1. W	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401 or ES-401N.	SW	4(1	M
R I T	b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 or ES-401N and whether all K/A categories are appropriately sampled.	SC)	Att	m
T E	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	$\mathcal{O}$	Acil	mp
N	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	KO)	Kol	m
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.	802	K(N	mp
I M 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.	8C)	hàl	me
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.	6	A (1)	mB
3. W A L K 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>	80)	10	M
H R O U G	<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>	90)	Acil	MB
Н	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.	2W	AN	MB
4.	<ul> <li>Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.</li> </ul>	20	Acil	MB
G E	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	(J)	114	mB
N E	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	8C)	лен	mB
R	d. Check for duplication and overlap among exam sections.	JQ	1(4	mB
L	e. Check the entire exam for balance of coverage.	Q	ALY	MB
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	BCJ	acil	MB
a. Auth b. Faci c. NRC d. NRC	or ity Reviewer (*) Chief Examiner (#) Supervisor	3	9-6- 9/6/ 9/6/ 9/7	16 16 16 16

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instruct, evaluate, or provide below and authorized by the	performance feedback to those applicants NRC.	s who were administered these	licensing examinations, except as sp	pecifically noted
1 Seo H Dimile	JOB TITLE / RESPONSIBILITY	SIGNATURE (1) Scott C Umele	9-10-15 2 Minute (2)	DATE NOTE
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14. STEPHEN THOMAS 15. Nobert MCYETS	OPS VALIDATOR	Robert 7 Maye	3/9/16 RI Mun	9/20/16
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PAGE 1 of 6

**ES-201** Examination Security Agreement VCS UNIT 2 \$3 CULD LICENSE CLASS #

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

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

these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered

facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may 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 feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and (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

Pre-Examination

Form ES-201-3

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the week(s) of

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during

TBD\_. From the date that I entered into this security agreement until the completion of examination administration, I did not

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Post-Examination

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ES-201	Examination Security Agreement	Form ES-201-3
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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 these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC date of my signature. | agree that | will not knowingly divulge any information about these examinations to any persons who have not been administered by in NRC chief examiner. | understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered nave been compromised. facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may eedback). (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 Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and Intred by the

# 2. Post-Examination

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. 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



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1. THOMAS U. ARNETTE 2. JOSEN D. Hayer 3. MICHARIS PARKES 5. Robert D. Yorbrough 6. HALDAN (ASMUSSICN) 7. COLEY S. Golf 8. MICHAEL BUS BIN 9. JERNICST MEDIAL 11. Charlen Complete 11. Charlen Charlen Complete 11. Charlen Complete 11. Charlen	PRINTED NAME	To the best of my knowledge, the week(s) of	2. Post-Examination	I acknowledge that I have acc date of my signature. I agree NRC chief examiner. I unde these licensing examinations (e.g., acting as a simulator bo feedback). Furthermore, I al understand that violation of the facility licensee. I will immed have been compromised.	1. Pre-Examination	ES-201
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ES-201	Examina	tion Security Agreement			Form ES-201-3
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ES-201	Examina	tion Security Agreement		Ţ	orm ES-201-3
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Form ES-301-1

Facility: V.C. Summ	er NPS	Date of Examination: Sept, 2016				
Examination Level: RO	/SRO	Operating Test Number: 1301				
Administrative Topic (see Note)	Type Code *	Describe activity to be performed				
Conduct of Operations	M,R	G 2.1.7 Assess EOP-F-0 Critical Safety Function Status Trees Originally Vogtle 2016 Audit RO/SRO				
Conduct of Operations	D,R	G 2.1.21 Calculate a RCS Dilution in accordance with SOP-CVS Originally VCS 2015 Audit RO/SRO				
Equipment Control	D,R	G 2.2.10 Determine isolation boundary components, positions and sequence to from a CCS pump discharge flange. Originally Vogtle 2016 Audit RO/SRO SRO Only component to identify applicable LCO action statements, re actions and completion times	isolate a leak equired			
Radiation Control	M,R	G 2.3.4 Contingent upon approval of applicable HPP procedures for U Determine projected dose to add oil to a RNS pump and determine if t completed without exceeding dose limits RO/SRO	nit 2/3 use. he task can be			
Emergency Plan	N,R	G 2.4.34 Given an EAL declaration, complete the notification form for notifications SRO	r initial			
NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when all 5 are required.						
* Type Codes & Criteria	a: (C)ontr	ol Room, (S)imulator or Class(R)oom	0/0/5			
	(D)irec	t from bank ( $\leq$ 3 for ROs; $\leq$ 4 for SROs and RO retakes)	2/2/0			
	(N)ew	or (M)odified from bank ( $\geq 1$ )	1/2			
	(P)revi	bus 2 exams ( $\leq 1$ ; randomly selected)	1			

- 1. Assess EOP-F-0, Critical Safety Function Status Trees
  - G 2.1.7, Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation. (CFR: 41.5 / 43.5 / 45.12 / 45.13) RO 4.4 SRO 4.7
  - RO/SRO
  - The candidate will be given an Ovation Critical Safety Function screen (without color cues). The candidate must then evaluate this data against EOP-F-0 and determine any applicable FRP's
- 2. Calculate a RCS Dilution iaw SOP-CVS-001, Attachment 3, Section 4.4
  - G 2.1.21, Ability to perform general and/or normal operating procedures during any plant condition. (CFR: 41.10 / 43.5 / 45.2 / 45.6) RO 4.3 SRO 4.4
  - RO/SRO
  - The candidate will be given a desired Boron Concentration change and must then use the SOP calculation to determine the amount of demin water to be pumped to the RCS.
- 3. Determine isolation boundary components, positions and sequence to isolate a leak from a CCS pump discharge flange. SRO Only component to identify applicable LCO action statements, required actions and completion times
  - G 2.2.10, Knowledge of the process for controlling equipment configuration or status. (CFR: 41.10/43.3/45.13) RO 3.9 SRO 4.3
  - APP-SWS-M6-001, SWS Mechanical Drawing
  - VCB-SAP-0201, Equipment Tagging and Lockout-Tagout
  - The candidate must determine the applicable prints needed and iaw VCB-SAP-0201, properly align the system to isolate the leakage. The SRO must then determine any applicable TS/TRM impact.
- 4. Determine projected dose to add oil to a CVS makeup pump and determine if the task can be completed without exceeding dose limits. Modify to add SRO only component to process a dose limit extension.
  - G 2.3.4, Ability to comply with radiation work permit requirements during normal or abnormal conditions. (CFR: 41.12 / 45.10) RO 3.5 SRO 3.6
  - RO/SRO
  - VCS-HPP-0151.00 Use of the Radiation Work Permit
  - VCS-HPP-0153.00 Administrative Exposure Limits
  - The candidate will be provided a survey map and RWP. The candidate must then determine the total dose involved in performing the task as whether administrative limits will be exceeded.
- 5. Given an EAL declaration, complete the notification form for initial notifications.
  - G 2.4.34, Knowledge of emergency communications systems and techniques. (CFR: 41.10 / 45.13) RO 3.2
  - SRO Only
  - EPP-002, Communication and Notification
  - The candidate will be given an approved EPP-002 communications form and complete the form.

# **Control Room/In-Plant Systems Outline**

Facility:         VC Summer Units 2 and 3	Date of Examination:	Sept, 201	6				
Exam Level: RO / SRO-I	Operating Test No.:	1301					
Control Room Systems <sup>*</sup> 8 for RO; 7 for SRO-I; 2 or 3	3 for SRO-U						
System / JPM Title			Type Code*	Safety Function			
a. Recover a dropped control rod (AOP-104)		]	M,A,S	1			
b. Lower accumulator B pressure (PXS-SOP). (RO On	ly)	ľ	I,EN,S	2			
c. Reduce RCS pressure using auxiliary spray (RCS-SC Audit Exam)	DP) (Originally VCS 1201		D,S	3			
d. Place RNS Train "A" into Shutdown Cooling (RNS- from VCS 2015 NRC Exam)	SOP) (Randomly selected	1	P,S,L	4P			
e. Unload generator and trip turbine (GOP-102). Genera (Randomly selected from VCS 2015 NRC Exam)	ator breaker fails to open.		P,A,S	4S			
f. PCS Malfunction, vacuum reliefs fail to open to limit following inadvertent PCS actuation. (AOP-110).	vacuum in containment	٢	I,S,EN	5			
g. Transfer ES-1 and 2 from UAT to RAT (ECS-SOP)			M,S	6			
h. RCP Locked Rotor ATWS (E-0/FR-S.1)		Γ	),A,L,S	7			
In-Plant Systems <sup>*</sup> (3 for RO); (3 for SRO-I); (3 or 2 for S	RO-U)						
i. Evacuate Control Room (AOP-601) Enable RSR and Safeguards	alternate path to actuate	1	N,A,E,	8			
j. Align WGS Guard and Delay Beds for Nitrogen purge IAV		N, R	9				
k. Energize RNS-V023 to cool the IRWST as directed by E-0, Attachment 1 N, E							
@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.							
Type Codes	Criteria for RO / SRO-I	/ SRO-U	Ac	tual			
(A)Iternate path	4-6/4-6/2-3			4			
(C)ontrol room				0			
(D)irect from bank	<u>&lt; 9/&lt; 8/&lt;</u> 4			2			
(E)mergency or abnormal in-plant	<u>&gt;</u> 1/> 1/>1			2			
(EN)gineered safety feature	≥1 /≥1 /≥1 (control room	system)		2			
(L)ow-Power / Shutdown	<u>&gt;1/&gt;1/&gt;1</u>			2			
(N)ew or (M)odified from bank including 1(A)	<u>&gt; 2/&gt; 2/&gt;1</u>			7			
(P)revious 2 exams	<u>&lt;</u> 3/ <u>&lt;</u> 3/ <u>&lt;</u> 2 (randomly s	elected)		2			
(R)CA	<u>&gt;1/&gt;1/&gt;1</u>			1			
(S)imulator				8			

# **Control Room Systems:**

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# **In-Plant Systems**

- i) Evacuate Control Room: New, Alternate path, Emergency in plant
  - SF8 A-306, AA1.06. Ability to operate and/or monitor the following as thy apply to Evacuation of Control Room: Remote shutdown workstation controls RO 3.7 SRO 3.7
  - AOP-601, Evacuation of Control Room
  - The operator evacuates to the Remote Shutdown Panel, enables control and determines that a Heat Sink can NOT be established and actuates Safeguards.
- j) Align WGS Guard and Delay Beds for Nitrogen purge: New, RCA
  - SF9 WGS A4.01. Ability to manually operate and monitor in the control room: Place Gaseous Radwaste System in service 2.6
  - SF9 WGS A4.02. Ability to manually operate and monitor in the control room: Nitrogen purge 2.5
  - WGS-SOP-001
  - The operator will use plant drawing to identify the plant locations for components operated and demonstrate a path from the Main Control Room to this location. Then use a mockup to enter the RCA. Then identify the correct position of components through the use of pictures. Then exit the RCA.
- k) Energize RNS-V023 to cool the IRWST: New, Engineered Safety Feature
  - SF4P RNS K1.06. Knowledge of the physical or control/protection logic relationship between the Normal Residual Heat Removal System and the following systems: Passive Core Cooling System 3.8
  - SF4P RNS A4.09. Ability to manually operate and monitor in the control room: Incontainment refueling water storage tank cooling 3.6
  - E-0, Attachment 1
  - The operator will use plant drawing to identify the plant locations for components operated and demonstrate a path from the Main Control Room to this location. Then identify the correct position of components through the use of pictures.

# **Operating Test Quality Checklist**

Facility:	VCS UNIT 2 Date of Examination: 9-12-16 Operating Test N	umber:	13.	21
	1. General Criteria		Initia	s
		а	b*	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).	SW	4.4	mB
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	80	Ach	MB
с.	The operating test shall not duplicate Items from the applicants' audit test(s). (see Section D.1.a.)	30	A (4	mB
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.	80	AIN	mB
e.	It appears that the operating test will differentlate between competent and less-than-competent applicants at the designated license level.	8Ù	And	mB
	2. Walk-Through Criteria		_	
a.	Each JPM includes the following, as applicable:			
b.	<ul> <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:</li> <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> 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	80	Ard	mB
	criteria (e.g., item distribution, bank use, repetition from the last 2 NRC examinations) specified on those forms and Form ES-201-2.	[		
	3. Simulator Criteria			
The asso ES-301	ociated simulator operating tests (scenario sets) have been reviewed in accordance with Form 4 and a copy is attached.	XC)	1(4	mB
a. Aut b. Fac c. NR	Printed Name / Signature hor <u>Scott C Domelle</u> <u>BCDomelle</u> illity Reviewer(*) <u>AIBERT C. NARLIS / MM (Menn</u> C Chief Examiner (#) <u>MARK A. BATES / Mond A. Toobs</u>	0-6 9-6 9/6/	ate 	6
d. NR NOTE:	The facility signature is not applicable for NRC-developed tests.     Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.	મ્ય		

	ES-301 Simulator Scenario Quality Checklist F	orm I	ES-30	)1-4
			w)	
	Facility: VCS U2 Date of Exam: 9-12-16 Scenario Numbers: 1/2 3/4 1/5/6 Operating	g Test N	No.: 13	101
	QUALITATIVE ATTRIBUTES		Initials	
		а	b*	c#
	<ol> <li>The initial conditions are realistic, in that some equipment and/or instrumentation may be out of service, but it does not cue the operators into expected events.</li> </ol>	80)	And	mB
	2. The scenarios consist mostly of related events.	80)	114	MB
	3. Each event description consists of			
	<ul> <li>the point in the scenario when it is to be initiated</li> <li>the malfunction(s) or conditions 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>	8C.)	NON	mB
[	4. The events are valid with regard to physics and thermodynamics.	SC)	404	MB
	<ol> <li>Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.</li> </ol>	SC)	1 cd	MB
[	<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>	34)	101	MB
	7. The simulator modeling is not altered.	8C)	114	mB
1	8. The scenarios have been validated. Pursuant to 10 CFR 55.46(d), any open simulator performance deficiencies or deviations from the referenced plant have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.	8C.)	Acil	mB
1	<ol> <li>Every operator will be evaluated using at least one new or significantly modified scenario. All other scenarios have been altered in accordance with Section D.5 of ES-301.</li> </ol>	8c)	ALU	mB
1	<ol> <li>All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).</li> </ol>	2c)	AcH	mB
	<ol> <li>The scenario set provides the opportunity for each applicant to be evaluated in each of the applicable rating factors. (Competency Rating factors as described on forms ES-303-1 and ES-303-3.)</li> </ol>	90)	Act	mB
1	<ol> <li>Each applicant will be significantly involved in the minimum number of transients and events specified on Form ES-301-5 (submit the form with the simulator scenarios).</li> </ol>	30	xa	mB
1	13. The level of difficulty is appropriate to support licensing decisions for each crew position.	30	114	mB
	Target Quantitative Attributes (Per Scenario; See Section D.5.d) Actual Attributes	-	(27)	
	1.         Malfunctions after EOP entry (1-2)         3-4         2-3         4         1-3         1/2-4         5	20	AR	mB
	2. Abnormal events (2-4) 2 3 4 3 3 2	80	AIG	mB
	3.         Major transients (1-2)         1         1         2         1         2         2	202	ned	m
1	4. EOPs entered/requiring substantive actions (1–2) 2 1 2 2 2 2	2C.	AU	ms
1	5. EOP contingencies requiring substantive actions (0-2) 1 0 0 1	SU	Acd	MB
1	6. EOP based Critical tasks (2–3)	10	Ach	N/S
	NOTE: * The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.			

# Form ES-301-5

Facility:	<u>VCS</u>	UNI	<u>r 2</u>	<b>n</b> ð		Date	of Exan	n: 9-	-12-	16	Ope	erating	Test N	lo.:	150	Î.	
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	Ē														R	Ι	U
RO	RX	2												1	1	1	0
	NOR	9												+	1	1	1
	1/C	3,4,7,												5	4	4	2
SRO-U	MAJ	6												1	2	2	1
	TS	3,5												2	0	2	2
RO	RX													0	1	1	0
	NOR													0	1	1	1
	I/C		3 79											4	4	4	2
SRO-U	MAJ		6											1	2	2	1
	TS		3											1	0	2	2
RO	RX			2										ļ.	1	1	0
	NOR			1										Ϋ́	1	1	1
	I/C			3,4										2	4	4	2
SRO-U	MAJ			6										1	2	2	1
	TS														0	2	2
RO	RX														1	1	0
	NOR														1	1	1
	I/C														4	4	2
SRO-U	MAJ														2	2	1
	TS														0	2	2
Instruction	s:																
1. (	Check the	applicar	nt level	and er	ter the	operat	ing test r	umber	and For	m ES-D	)-1 ever	nt numb	ers for (	each e	event	type;	TS
á	are not app positions	licable	for RO	applica	ants. R	Os mu serve i	ust serve	in both e SRO	the "at-	the-con	trois" (A	TC) an	d "balar ng at lea	ice-of	-plant	t" (BC	)P) nt or
	componen	t (I/C) m	alfuncti	ons ar	nd one n	najor t	ransient,	in the A	TC pos	ition.	f an SR	O-I add	litionally	serve	es in f	he B	OP
	position, or	ne I/C m	alfuncti	on car	1 be cre	dited to	oward th	e two I/0	; malful	nctions	require	tor the	AICP	ositioi	٦.		
2.	Reactivity i	manipul	ations r	nay be	conduct	ted ur	nder nom	nal or co	ontrolled	d abnori	nal con Levoluti	ditions (	(refer to v be rer	Secti	on D. with	5.d) l additi	out
1	nstrument	or com	ponent	malfun	ictions c	n a or	ne-for-on	e basis.	any and		, oroidi	0101110	,		******	aatart	
3. 1	Whenever	practica	al, both	instrun	nent and	t com	onent m	alfuncti	ons sho	uld be i	ncluded	; only tl	nose tha	at requ	uire v	erifia	ble
	actions tha	It provid	e insigh	it to the	e applic	ant's c 1 colur	ompeten	ce cour	t towar	d the m	inimum	require	ments s	pecifi	ed foi	the	
				ATTO			-11-1		1 - :		4	- alt f					<u>.</u>
4	-or license applicants	ees that in eithe	use the r the AT	ATC OF E	operator SOP pos	prima	best ev	ionitorin aluate ti	g plant he SRO	parame )-l in ma	iters, the inipulati	e chief e ng plan	examine t contro	er may Is.	plac	e SR	0-1

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# Form ES-301-5

Facility:	VSS	UN	172	~		Date	of Exar	n: 6	- 12 -	16	Op	erating	Test N	lo.: 1	130	1	
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Ļ	Ň	(	CREW	N.	CREV	V PO	SITION	CREV	V POS	ITION	CREV	V POS	ITION			N	
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	E														R	1	U
RO	RX				2									1	1	1	0
SRO-I	NOR				1										1	1	1
	I/C				10	L		<u> </u>						4	4	4	2
ISRO-U	MAJ				6								L	1	2	2	1
	TS				3,4									2	0	2	2
RO	RX					2								1	1	1	0
SRO-I	NOR							<u> </u>		L				0	1	1	1
	I/C				<u> </u>	9								1	4	4	2
SRO-U	MAJ					6				[				1	2	2	1
	TS				<b></b>									0	0	2	2
	RX						1							1	1	1	0
SRO-I	NOR				<b></b>		2,2,10							3	1	1	1
	I/C						6	<u></u>						1	4	4	2
	MAJ						3	e dana						1	2	2	1
	TS														0	2	2
RO	RX														1	1	0
SRO-I	NOR														1	1	1
	1/C														4	4	2
ISRO-U	MAJ														2	2	1
	TS														0	2	2
Instruction	s:							t									
1. (	Check the a	applicar	t level a	and en	ter the	operat	ing test n	umber a	and For	m ES-D	)-1 ever	nt numb	ers for e	each e	event	type;	TS
	are not app positions.	licable i Instant	for RO a SROs (	applica SRO-I	ints. R ) must s	os mu serve i	ust serve n both th	in both e SRO a	the "at- and the	Ine-con ATC po	trois" (A	includii	d "balar ng at lea	ice-or ast two	-piani p insti	rume	רץ) nt or
	component	(I/C) m	alfunctio	ons an	d one n	hajor ti dited ti	ransient, oward the	in the A	TC pos	ition. I	f an SR	O-i ada	ATC n	serve	es in t	he B	OP
			anunou	un can		uncu t								031101	1.		
2.	Reactivity n must be sig	nanipula nificant	ations m per Sec	tion C	conduct. 2.a of A	ted ur Appent	nder norn dix D. (*	nal or co ) Reacti	<i>ntrollec</i> vity and	abnorr I norma	nal con evoluti	ons ma	reter to y be rep	Secti laced	on D. with a	5.d) l addit	out ional
-	nstrument	or comp	onent r	nalfun	ctions a	n a or	e-for-one	e basis.	-								
3.	Whenever	oractica	l, both i	nstrum	nent and	l comp	oonent m	alfunctio	ons sho	uld be i	ncluded	; only tł	nose tha	at requ	ire ve	erifial	ble
	actions that applicant's	provide license	e insighi Ievel in	t to the the rig	e applica pht-hanc	ant's c I colur	ompeten nns.	ce coun	t toward	a the mi	nimum	require	nents s	pecitie	ed for	the	
	For licenso	ae that	uea the		norstor	ndma	rily for m	onitoria	n nlant	naramo	tors the	, chief c	vamino	rmav	nlac	a SD	0-0
-1, 1	applicants i	n either	the AT	C or B	OP pos	ition to	best eva	aluate th	e SRO	-l in ma	nipulati	ng plan	contro	s.	piaci	5 010	0-0

ES-301

Form ES-301-5

Facility:	VCS	UNI	52			Date	of Exar	n: 6-	12 -	19	Op	erating	Test N	lo.:	13	01	
A	E							S	cenario	os			-				
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C A N T	T Y P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	A L		M U M(	*)
	E			L				<u> </u>						L	R		U
RO	RX							•			L			1	1	1	0
SRO-I	NOR		ļ					1	-					<u> </u>	1	1	1
	I/C				ļ			10/1						4	4	4	2
SRO-U	MAJ							6,8						2	2	2	1
	TS				ļ			2,3						2	0	2	2
RO	RX								1					1	1	1	0
	NOR													0	1	1	1
	I/C								2,11					2	4	4	2
SRO-U	MAJ								6					1	2	2	1
	TS								2					1	0	2	2
RO	RX									1				1	1	1	0
	NOR									3				1	1	1	1
	I/C									4,10				2	4	4	2
SRO-U	MAJ									6,8				2	2	2	1
	TS														0	2	2
RO	RX														1	1	0
	NOR														1	1	1
	I/C														4	4	2
SRO-U	MAJ														2	2	1
	TS														0	2	2
Instruction	Check the are not app positions. component position, or	applicar Ilicable Instant I (I/C) m ne I/C m	nt level a for RO a SROs ( nalfunctionalfuncti	and er applica SRO- ons ar on car	nter the ants. R I) must : nd one r n be cre	operat Os mi serve i najor t dited t	ing test r ust serve n both th ransient, oward the	iumber in both e SRO in the A e two I/	and For the "at- and the ATC pos	rm ES-E the-con ATC po sition. I nctions	)-1 ever trols" (A sitions, f an SR required	nt numb (TC) an includi O-I add	ers for ( d "balar ng at lea litionally e ATC p	each e nce-of ast two v serve ositior	event -plani o inst es in f	type t" (BC rume the B	; TS OP) ent c
2.	Reactivity r must be sig instrument	nanipul Inificant or com	ations n per Sec ponent r	nay be ction C malfun	conduc 2.a of <i>i</i> actions c	ted ur Appeni n a or	ider nom dix D. (' ie-for-oni	nal or c ) React e basis.	o <i>ntrollei</i> ivity and	d abnorr d norma	nal con I evoluti	ditions ons ma	(refer to y be rep	Secti laced	on D. with	5.d) addit	but iona
3.	Whenever actions that applicant's	practica t provid license	al, both i e Insigh Ievel in	nstrun t to the the rig	nent and e applic ght-hand	d comp ant's c d colur	oonent m ompeten nns.	alfuncti ce cour	ons sho nt towar	ould be i d the mi	nciuded	; only ti require	nose tha ments s	at requ pecifi	uire v ed foi	erifia the	ble
4.	For license applicants I	es that in eithei	use the r the AT	ATC o C or B	operator	prima	rily for m best ev	onitorin aluate t	g plant he SRC	parame )-l in ma	ters, the nipulati	e chief e ng plan	examine t contro	er may ls.	/ plac	e SR	0-1

Form ES-301-5

F	acility:	Ves	UNI	T 2	-		Date	of Exan	n: 6	-12	- 16	Op	ərating	Test N	lo.:	13	0	
	A	E							S	cenario	s							
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	Ĺ		( PC	CREW	N	CREV	V PO	SITION	CREV	V POS	ITION	CREV	V POS	ITION	O T		1 N	
	Ċ		s	A	В	S	A	В	S	A	В	S	A	В	A		I M	
	N	Y	R	T	0 P	R	T	O P	R	T	O P	R	T	O P	L		U	*)
	Т	P E			'							Ŭ	Ū			R	1	U
F	20	RX										2			I	1	1	0
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Ī		I/C										2.455			5	4	4	2
S	SRO-U	MAJ										6			1	2	2	1
L		TS										4,5			2	0	2	2
F	२०	RX													Ø	1	1	0
		NOR													0	1	1	1
Ì		1/C											3,5,8		3	4	4	2
	SRO-U	MAJ											6		1	2	2	1
		TS											4,5		2	0	2	2
F	20	RX												2	1	1	1	0
	BRO-I	NOR												1	1	1	1	1
		I/C												4,5,9	3	4	4	2
8	SRO-U	MAJ												6	1	2	2	1
L		TS														0	2	2
F	20	RX														1	1	0
5	 SRO-I	NOR														1	1	1
Ì		I/C														4	4	2
S	SRO-U	MAJ														2	2	1
L		TS														0	2	2
1   	nstructior	ns: Check the a are not app positions. component position, or	applicar licable Instant (I/C) m e I/C m	nt level a for RO a SROs ( alfunctionalfunctio	and er applica SRO- ons ar on car	nter the ants. R I) must s nd one n n be cre	operat Os ma serve i najor ti dited ti	ing test r ust serve n both th ransient, oward th	in both in both e SRO in the A e two I/0	and For the "at- and the ATC pos C malfu	m ES-I the-con ATC po ition.	0-1 ever itrols" (A ositions, if an SR required	nt numb (TC) an includi O-l <i>adc</i> d for the	ers for o d "balar ng at lea <i>litionally</i> e ATC p	each e ice-of ast two serve ositior	event plant pinst s in f	type; t" (BC rume the B	; TS DP) nt or OP
2	2	Reactivity r must be sig instrument	nanipul nificant or com	ations n per Sec ponent i	nay be ction C nalfun	conductions c	ted ur Appeni In a or	ider norn dix D. (* ie-for-oni	nal or co ') React e basis.	o <i>ntrollec</i> ivity and	f abnori I norma	mal con I evoluti	ditions ons ma	(refer to y be rep	Secti- laced	on D. with	5.d) addit	out ional
3	<b>)</b> .	Whenever actions that applicant's	practica t provid license	II, both i e Insigh Ievel in	nstrun t to the the rig	nent and e applica ght-hand	d comp ant's c d colur	oonent m ompeten nns.	alfuncti ce cour	ons sho nt towar	uld be i d the m	ncluded	; only ti require	hose tha ments s	at requ pecific	uire vo ed for	erifia the	ble
4	l.	For license applicants i	es that in either	use the r the AT	ATC ( C or E	operator 3OP pos	prima	rily for m best ev	ionitorin aluate tl	g plant he SRO	parame -I in ma	iters, the inipulati	e chief e ng plan	examine t contro	er may Is.	plac	e SR	0-1

ES-301

Facility:	Ves	UN	IT	2		Date	of Exar	n: 6~	12-1	16	Ope	erating	Test N	lo.:	13.	21	
A	Ε							S	cenario	DS							
P	V F		+:	5		2			3			4		Т		M	
L L	N T	( PC	CREW DSITIO	N	CREV	V POS	SITION	CREV	V POS	ITION	CREV	V POS	ITION	O T		N	
CA	т	S	A	В	S	Α	В	S	А	В	S	A	В	A		M	
N	Y	R	C	P	R	C	O P	R	C		R	T C	O P	L		U M(*	ŋ
	E														R		U
RO	RX	1												1	1	1	0
ISB0-I	NOR													0	1	1	1
	I/C	3.4,5												:S	4	4	2
SRO-U	MAJ	6,9												2	2	2	1
	TS	4,5												2	0	2	2
RO	RX		١												1	1	0
SPO I	NOR													0	1	1	1
	I/C		4,5,7											3	4	4	2
SRO-U	MAJ		6,9											2	2	2	1
	TS		5											1	0	2	2
RO	RX			1										1	1	1	0
SRO-I	NOR													0	1	1	1
	I/C			3,12										2	4	4	2
SRO-U	MAJ			6,9										2	2	2	1
	TS													0	0	2	2
RO	RX														1	1	0
SRO-I	NOR														1	1	1
	I/C														4	4	2
SRO-U	MAJ														2	2	1
	TS														0	2	2
Instruction	s:																
1.	Check the a are not app positions. component position, or	applicar licable i Instant (I/C) m ie I/C m	t level for RO SROs ( alfuncti alfuncti	and en applica (SRO-I ons an on car	iter the ( ants. R ) must s id one n ) be cree	operati Os mu serve i najor tr dited to	ing test r ist serve n both th ransient, oward the	iumber a in both e SRO a in the A e two 1/0	and For the "at- and the .TC pos C malfu	rm ES-E the-con ATC po ition. I nctions	)-1 ever trols" (A ositions, f an SR required	it numb (TC) an Includii O-l <i>add</i> I for the	ers for e d "balar ng at lea litionally ATC po	each e nce-of ast two serve ositior	event -plani o inst es in f	type; " (BC rume he B	TS )P) nt or OP
2.	Reactivity r must be sig instrument	nanipuli Inificant or comp	ations n per Sec ponent i	nay be ction C malfun	conductions of A	ted un ppend n a on	der norn llx D. (* e-for-one	nal or co ) Reacti e basis.	o <i>ntrollec</i> vity and	d abnom 1 norma	nai con I evoluti	ditions ( ons ma	refer to y be rep	Section Iaced	on D. with	5.d)   addit	but ional
3.	Whenever actions that applicant's	practica t provide license	l, both i e insigh level in	nstrun t to the the rig	nent and e applica pht-hand	i comp ant's c i colun	onent m ompeten nns.	alfunctio ce coun	ons sho t towar	uld be i d the mi	ncluded inimum	; only tł require:	nose tha ments s	at requ pecifié	uire vo ed for	erifial the	ble
4.	For license applicants i	es that i n either	use the the AT	ATC o C or B	operator OP pos	prima ition to	rily for m best ev	onitorin aluate th	g plant ne SRO	parame I-l in ma	ters, the inipulation	e chief e ng plani	examine t control	r may Is.	plac	e SR	0-1

I

### Transient and Event Checklist

Facility:	VCS	UNIT	- 2	<u>,</u>		Date	of Exar	n: 6	12-	16	Op	erating	Test N	No.:	130	ì	
A	E							S	cenario	DS							
P	V	1	1	6		2			3			4		Т		M	
	N		CREW		CREV	V PO	SITION	CREV	V POS	ITION	CREV	V POS	ITION	0			
	T	P(	DSITIO	N										T			
A	Т	S	A	B	S	A	B	S	A	B	S	A	B			M	
N	Y P	Ö	c	P	0	ċ	P	Ö	ċ	P	õ	ċ	P			M(	*)
	E														R	1	U
RO	RX	a												1	1	1	0
	NOR														1	1	1
	I/C	5,7,8												4	4	4	2
SRO-U	MAJ	6,9												'2	2	2	1
	TS	4,5												2	0	2	2
RO	RX		2											1	1	1	0
	NOR													0	1	1	1
	I/C		5,7,1								1			3	4	4	2
SRO-U	MAJ		6,9											2	2	2	1
	TS													ŝ	0	2	2
RO	RX			2										1	1	1	0
ISRO-I	NOR			1										1	1	1	1
	I/C			5,8										2	4	4	2
SRO-U	MAJ			6,9										2	2	2	1
	TS			4											0	2	2
RO	RX														1	1	0
I SRO-I	NOR														1	1	1
	I/C														4	4	2
SRO-U	MAJ														2	2	1
	TS														0	2	2
Instructior	IS:																
1.	Check the a are not app positions. component position, on	applican licable f Instant (I/C) m ie I/C m	it level a for RO a SROs ( alfunctio alfunctio	and en applica SRO-l ons an on can	ter the c ints. R ) must s d one m be crec	operati Os mu serve in ajor tr dited to	ing test n ist serve n both the ansient, oward the	umber a in both e SRO a in the A e two I/C	and For the "at-l and the TC posi c malfur	m ES-D the-conf ATC po ition. If nctions r	-1 even trols" (A sitions, f an SR( required	t numb TC) and includir O-I <i>add</i> I for the	ers for e d "balan ng at lea <i>itlonally</i> ATC po	each e ice-of- ist two serve osition	vent plant instr s in t	type; " (BC "ume he B <sup>i</sup>	TS )P) nt or OP
2.	Reactivity n must be sig instrument	nanipula nificant or comp	ations m per Sec ponent n	ay be tion C.	conduc .2.a of A ctions of	ted un oppenc	der norm lix D. (*) e-for-one	al or co Reacti basis	<i>ntrolleo</i> vity and	l abnom I normal	nal cono evolutio	litions ( ons may	refer to / be repi	Section laced	on D. with a	5.d) t additi	out onal
3.	Whenever p actions that applicant's	practical provide license	l, both ii e insight level in	nstrum to the the rig	ent and applica ht-hand	l comp int's co colum	onent ma ompetena nns.	alfunctio ce couni	ins shoi t toward	uld be ir I the mi	ncluded nimum i	; only th equirer	iose tha nents sj	t requ pecifie	ilre ve ed for	rifiat the	ole
4.	For licensee applicants i	es that un n either	use the the the	ATC o C or B	perator OP posi	primai tion to	rily for mo best eva	onitoring Iluate th	g plant j ie SRO-	oaramet -I in mai	ers, the nipulatir	chief e ng plant	xamine control	r may s.	place	s SR(	0-1

### **Competencies Checklist**

### Form ES-301-6

Facility: VCS UNIT 2	D	ate o	fExa	amin	atio	n: 6	- 12	- 16		Оре	eratin	ıg T	est	No.:	130	ñ
							APF	PLIC	ANI	ſS						
	R S S	0 RO-I RO-U	] ] 2		FSS	RO BRO- BRO- AT	.  .U		FS	RO SRC SRC	)-   -  		F	RO SRO- SRO-	.  .U	
Competencies	S	CEN	IARI	0	3	SCEI	VARI	0	S		VARI	0	5	SCE	VARI	0
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Interpret/Diagnose Events and Conditions	3,4 6,9 10	4.15	3,5	3-7	3,6 8-10	7-9	3.10	3-1	4;7	4,5 6,10	5,9,	4			-	
Comply With and Use Procedures (1)	6,8 9,10	1,2 4-10	1,2;3 5-11	1-7	2,3,6 8-1:2	2,6 7-9	2,3 7-10	3.1	1-4 15;7	1,1 5,6 19	1,2,5 9,11	1,4				
Operate Control Boards (2)					2,6,4 9,12	2,6 7-9	2,3 7-1-3	3-7	1.4 (.,7	1,4 5,6	1,2,5 9,11	1,4				
Communicate and Interact	1,2,3 4,6,4 7,6,4	1,2,9 5-10	1,2,3 S-11	1.1	3.8 9,0	2,6	2,3 '7-13	3.)	1-5, 7	1,11 5,6	1,25 9,11	1,2 4				
Demonstrate Supervisory Ability (3)	1-4 6-10	1,2 4-10	1,2,3 5-11	1.7												
Comply With and Use Tech. Specs. (3)	3,5	3,4	3,4	9,5												
Notes: (1) Includes Technical S (2) Optional for an SRO-	pecifi U.	catior	i com	plian	ce fo	or an	RO.									

(3) Only applicable to SROs.

### Instructions:

Check the applicants' license type and enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant. (This includes all rating factors for each competency.) (Competency Rating factors as described on forms ES-303-1 and ES-303-3.)

### **Competencies Checklist**

### Form ES-301-6

Facility: VCS UNITZ	Da	ate o	fExa	amin	atio	n: 6	12	-16		Оре	ratin	gТ	est l	No.;	/30	1
							APF	PLIC	ANT	S						
	R SI SI	O RO-I RO-L	] ] ]		F	RO BRO- BRO-	l U		F	RO SRO SRO	-I -U		F S S	RO- BRO- BRO-	U	
Competencies	s	CEN		2	5	SCEN	JARI	0	S	CEN	IARI	0		CEN	JARI	0
	5	6	3	4	5	Q	3	4	5	6	3	4	1	2	3	4
Interpret/Diagnose Events and Conditions	3.7	4-5 6-13			4,5 8	4,5 7,11			3,12	1,2 45						
Comply With and Use Procedures (1)	1,3 5-10	1,2 4-12	le-		1, 6-13	1,2 5-12			1,3 614	1,2 4=12	~					
Operate Control Boards (2)					1,4 5-12	1,2 5-12			1,3 6, 8-13	1,2- 4-12-						
Communicate and Interact	1,3	1,2 4-12			1.1 2-12	1,"L 5-12			1,3 6 8-12	ر آ <sup>ر</sup> ۱٫۶۷	-					
Demonstrate Supervisory Ability (3)	1,3 5-10	1 <sub>1</sub> L 4- 12														
Comply With and Use Tech. Specs. (3)	4,5	4-5			-											
Notes: (1) Includes Technical S (2) Optional for an SRO- (3) Only applicable to SF	pecific U. (Os.	cation	i com	plian	ice fo	or an	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. (This includes all rating factors for each competency.) (Competency Rating factors as described on forms ES-303-1 and ES-303-3.)

Final Written Sample Plan is a combination of Draft Approved Sample Plan and ES-401-4.

VCS UNIT 2

9-12-16 EXAM

ES-401N

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Record of Rejected K/As

Form ES-401N-4

Tier/Group	Randomly Selected KA	Reason for Rejection
1/1	A-345AG2.4.14	COULD NOT WRITE DISCERNING
Ro		QUESTION NEW K/A A345-62.4.4
1/1	E-3-62,4.25	COULD NOT WRITE DISCERNING
Ro		QUESTING NEW K/A E.3 G 2.4.24
	ECA 1.1-EALOY	COULD NOT WRITE DISCERNING
RO		QUESTIN. NEW KA ECALI- EA 1.03
		<i>P</i>
1/2	FR-H. 2EG. 2.1.21	WULD NOT WRITE DISCERNING-
RO		QUESTION, NEW KIA FRH-ZEGK. 1.11
2 2	FUC 6224	
Ro Ro	rhs-Gale. 1	COULD NOT WRITE DISCERNING
10		QUESTISN, NEW RIA FRISHOR. I. CF
172	A 308 A12	Carl Darts 1 1910 to 1940 Carl Gara
SRD	1 ) 20 M 12:01	OUESTIN, NEW KIA ASDE-AAD VI
2100		george and the Aber Mining
2/2	SFS-62.4.17	CULD NOT WRITE DISCERNING
SRO		AUESTION, NEW KIA SES-GOLIZE

ES-401N	Written Examina	tion Qua	lity Che	cklist	For	n ES-401N	-6
	Facility: VCS UNIT と Date of Exam:	9-12-	16	Exam Lev	el: RO	X SRO	
		· · · · · · · · · · · · · · · · · · ·					
	Item Description				а	b*	C*#
1.	Questions and answers are technically accurate and applica	ible to the fa	cility.		8Ci)	del	mB
2.	a. NRC K/As are referenced for all questions.				20)		0.0
	b. Facility learning objectives are referenced as available.				SW	104	IND
3.	SRO questions are appropriate in accordance with Section E	D.2.d of ES-	401		8C)	Aid	mB
4	The sampling process was random and systematic (If more f questions were repeated from the last two NRC licensing ex- program office).	lhan four RC ams, consul	) or two SF t the NRR/	IO NRO OL	80)	Acit	mB
5.	Question duplication from the licensee screening/audit exam below (check the item that applies) and appears appropriate The audit exam was systematically and randomly develop the audit exam was completed before the license exam w the examinations were developed independently; or Xthe licensee certifies that there is no duplication; or other (explain)	i was contro : ied; or vas started; (	lled as indi	cated	8C)	ліц	mB
6.	Bank use meets limits (no more than 75 percent from the bank, at least 10 percent new, and the rest new or modified); enter the actual RO / SRO-only question	Bank	Modified	New	20)	4.1	
7.	Between 50 and 60 percent of the questions on the BO			VIII	pu	лич	M15
	exam are written at the comprehension/ analysis level; the	Memory	C//	A			
	selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right.	4513	14 5	5176	8C)	AN	mB
8.	References/handouts provided do not give away answers or distractors.	aid in the el	mination o	f	2C)	114	MB
9.	Question content conforms to specific K/A statements in the outline and is appropriate for the tier to which they are assign	previously a ned; deviatio	pproved e: ns are just	amination	8C.)	114	mB
10.	Question psychometric quality and format meet the guideline	is in ES App	endix B.		8C.)	714	mB
11.	The exam contains the required number of one-point, multipl and agrees with the value on the cover sheet.	e choice iter	ns; the tota	I is correct	2C)	AUN	mB
	Printed Nam	ne / Signatu	8 2	· · ·		Date	
a. Autho	Scott C Dim	eler /	SC)1	mile		9-6-11	6
b. Facili	y Reviewer (*) AIBERT C. HARRIS /	NR	Clu			8/6/16	
c. NRC d. NRC	Chief Examiner (#) Regional Supervisor	Mark	Q. 7 July	at		9/6/16	
Note:	The facility reviewer's initials or signature are not applic Independent NRC reviewer initials items in Initial colum	able for NR n c; chief e	C-develope aminer co	ed examination	ons. quired <u>.</u>		

ES-401N, Page 47 of 51

Q	1.	2.	3. Psycho	omeric Fla	WS			4. Job	Content Fla	aws		5. Other		6.	7.	8. Explanation
	LOK	LOD	Stem	Cues	T/	Cred.	Partial	Job-	Minutia	# /	Back	Q –	SRO	В, M,	U, E,	
	(F/H)	(1-5)	FOCUS		F	Dist		LINK		Units	ward	K/A	Only	IN	3	
1	Н	2												М	s	CASK6.03
•	••	-													•	
																No changes from what was agreed upon during development.
2	F	2												В	S	CNSG2.2.17
																No changes from what was agreed upon during development.
																O31 on May 2015 exam
3	Н	2												Ν	S	CVSA4.11
																No changes from what was agreed upon during development.
	-														_	DAOKAAA
4	F	2												N	S	DASK4.01
																No changes from what was agreed upon during development
5	Н	2												В	S	ECSK6.09
																No changes from what was agreed upon during development.
0															_	
6	н	2												в	S	IDSA3.01
																No changes from what was agreed upon during development
																No changes nom what was agreed upon during development.
7	Н	2												М	S	IDSK1.03
																No changes from what was agreed upon during development.
•	-														0	N0040.05
8	F	2												M	S	MSSA3.05
																No changes from what was agreed upon during development
																Q41 on May 2015 exam.
9	F	2												Μ	S	PCSK4.03
																No changes from what was agreed upon during development.

Q	1.	2.	3. Psych	omeric Fla	WS			4. Job	Content Fl	aws		5. Othe	r	6.	7.	8. Explanation
	LOK	LOD	Stem	Cues	T/	Cred.	Partial	Job-	Minutia	# /	Back	Q –	SRO	B, M,	U, E,	
	(F/H)	(1-5)	FOCUS		F	Dist		LINK		Units	waru	r/A	Only	IN	3	
10	Г	2												D	6	
10	F	2												в	5	PX5A4.03
																No changes from what was agreed upon during development.
														_	_	BOBIAAA
11	н	2												В	S	RCPK3.01
																No changes from what was agreed upon during development.
12	Н	2												В	S	RCSA3.03
																No changes from what was agreed upon during development.
10		0												5	0	D0000 47
13	н	2												в	5	RCSG2.4.7
																No changes from what was agreed upon during development.
		_												_	_	700/// 0/
14	н	2												в	S	ZUSK1.04
																No changes from what was agreed upon during development.
																000
																Q60 on May 2015 exam.
15	Ц	2												N/	6	
15		2												IVI	3	CD3A4.04
																No material changes from what was agreed upon during
																development
																development.
16	F	2												N	S	EPSK6.08
		-													Ŭ	
																No material changes from what was agreed upon during
																development
17	Н	2												В	S	SFSK5.03
		_												_	-	
																No changes from what was agreed upon during development.
18	F	2												Ν	S	WLSK1.07
																No changes from what was agreed upon during development.
19	F	2												Ν	S	G2.1.18

Q	1.	2.	3. Psych	omeric Fla	WS			4. Job	Content Fla	aws		5. Other	r	6.	7.	8. Explanation
	LOK (F/H)	LOD (1-5)	Stem Focus	Cues	T/ F	Cred. Dist	Partial	Job- Link	Minutia	# / Units	Back ward	Q – K/A	SRO	В, М, N	U, E, S	
	()	(1.0)				5.00		2		01110	mara	1071	Unity		-	
																No changes from what was agreed upon during development.
20	F	2												Ν	S	G2.1.33
																No changes from what was agreed upon during development.
21	F	2												Ν	S	G2.3.4
																No changes from what was agreed upon during development.
22	Н	2												В	S	G2.3.5
																No changes from what was agreed upon during development.
23	F	2												В	S	G2.3.6
																Note: RO LOK was evaluated and determined to be sat. ROs must know under what plant conditions an SRO can give permission to enter a LHRA and under what plant conditions require HP approval to enter a LHRA. Determined to be information related to RO duties by both CE and licensee. No changes from what was agreed upon during development.
24	Н	2												В	S	A-313AA2.05
																No changes from what was agreed upon during development.
25	Н	2												Ν	S	E-0EK3.10
																No material changes from what was agreed upon during development.
26	Н	2												Ν	S	ES-0.2EA1.07
																No changes from what was agreed upon during development.
27	Н	2												Ν	S	ES-1.1EA2.03
																No changes from what was agreed upon during development.
28	Н	2												Ν	S	ES-1.4EA2.04

Q	1.	2.	3. Psycho	omeric Fla	ws			4. Job	Content Fl	aws		5. Othe	r	6.	7.	8. Explanation
	LOK (E/H)	LOD (1-5)	Stem	Cues	T/ F	Cred.	Partial	Job- Link	Minutia	#/	Back	Q – K/A	SRO	В, М, N	U, E, S	
	(1711)	(10)	10000		· ·	Diot		LIIIX		Office	Ward	1071	Only		0	
																No changes from what was agreed upon during development.
29	F	2												Ν	S	FR-C.1G2.4.6
																No changes from what was agreed upon during development.
30	н	2												М	S	A-302AA2.01
																No changes from what was agreed upon during development.
31	Н	2												Ν	S	A-306G2.4.4
																Only minor changes made in rad level.
32	F	2												Ν	S	A-314AK3.03
																No changes from what was agreed upon during development.
33	F	2												Ν	S	A-318AA1.03
																All previous comments incorporated.
34	F	2												Ν	S	ES-1.2EA1.09
																No changes from what was agreed upon during development.
35	F	2												Ν	S	CCSK5.01
																No changes from what was agreed upon during development.
36	F	2												Ν	S	CNSK4.05
																Changes made to replace second half from question constructed during development.
37	Н	2												М	S	ECSK5.04
																No changes from what was agreed upon during development.
38	Н	2												N	S	PPCSA1.14

Q	1.	2.	3. Psycho	omeric Fla	WS			4. Job	Content Fla	aws		5. Other	-	6.	7.	8. Explanation
	LOK	LOD	Stem	Cues	T/	Cred.	Partial	Job-	Minutia	#/	Back	Q –	SRO	B, M,	U, E,	
	(F/H)	(1-5)	Focus		F	Dist		Link		Units	ward	K/A	Only	N	S	
																No changes from what was agreed upon during development.
39	Н	2												Μ	S	PRHRK2.01
																No changes from what was agreed upon during development.
																5 5 1 5 1
40	н	2												N	S	RNSA2 10
	••	-													Ŭ	1410/ 2.10
																No changes from what was agreed upon during development
																No changes nom what was agreed upon during development.
44		<u> </u>												NI	0	
41	н	2												IN	5	RISK3.12
																No changes from what was agreed upon during development.
42	F	2												Ν	S	SGSK2.04
																First half modified.
43	Н	2												Ν	S	SGSK5.02
																No changes from what was agreed upon during development.
																······································
44	F	2												N	S	SWSK1 01
	•	-														
																First half modified
45	F	2												N	S	70841.01
-5	•	2													0	20041.01
																No obangoo from what was agreed upon during development
																No changes nom what was agreed upon during development.
40	-	0												NI		FU0.00.4.07
46	F	2												N	5	FHSG2.1.27
																No changes from what was agreed upon during development.
47	F	2												Ν	S	VLSA2.02
																No changes from what was agreed upon during development.
48	F	2												Ν	S	IISK3.02
																Stem condition changed first half answer.

Q	1.	2.	3. Psych	omeric Fla	WS			4. Job	Content Fl	aws		5. Othe	r	6.	7.	8. Explanation
	LOK	LOD	Stem	Cues	T/	Cred.	Partial	Job-	Minutia	#/	Back	Q –	SRO	B, M,	U, E,	
	(F/H)	(1-5)	Focus		F	Dist		Link		Units	ward	K/A	Only	N	5	
	_														_	
49	F	2												Ν	S	PLCSK4.07
																No changes from what was agreed upon during development.
														_	_	
50	F	2												В	S	RMSA3.01
																No changes from what was agreed upon during development.
		-													-	
51	н	2												М	s	G2.1.40
																No share a firm of stars and stars a desire device device stars
																No changes from what was agreed upon during development.
		_													0	00.0.15
52	н	2												N	S	G2.2.15
																No motorial changes
																No material changes.
50		2												D	0	C2 2 20
55	п	2												Б	3	62.2.50
																No changes from what was agreed upon during development
																No changes nom what was agreed upon during development.
54	F	2												N	S	62 4 23
54		~													0	62.4.23
																Expected changes made
55	Н	2												Ν	S	G2.4.37
																No changes from what was agreed upon during development.
56	F	2												Ν	S	VFSA1.07
	H															
																Q should be 'H' not 'F'.
57	н	2												Ν	S	ESASA2.33
																Q analysis updated.
	L	-			L											
58	ΙН	2												Ν	S	FWSK6.11
																No changes from what was agreed upon during development.
50		0											<b> </b>	NI		
59		2					I							IN	5	SUP-DEK2.02

Q	1.	2.	3. Psych	omeric Fla	ws			4. Job	Content Fl	aws		5. Othe	r	6.	7.	8. Explanation
	LOK (F/H)	LOD (1-5)	Stem Focus	Cues	T/ F	Cred. Dist	Partial	Job- Link	Minutia	# / Units	Back ward	Q – K/A	SRO	В, М, N	U, E, S	
	()	(10)			·	2101		Lint		01110		1071	0,		-	
																No changes from what was agreed upon during development.
60	Н	2												Ν	S	SDP-6EK2.01
																No changes from what was agreed upon during development.
61	Н	2												Ν	S	ADS-G2.4.2
																No changes from what was agreed upon during development.
62	Н	2												Ν	S	A-307AK1.03
																No changes from what was agreed upon during development.
63	Н	2												Ν	S	A-317AK2.02
																No material changes from what was agreed upon during development.
64	Н	2												Ν	S	A-323AK2.02
																No changes from what was agreed upon during development.
65	Н	2												N	S	A-329AK1.04 No material changes from what was agreed upon during development.
66	F	2												Ν	S	A-336AK3.03
																No changes from what was agreed upon during development.
67	Н	2												Ν	S	A-337AA1.02
																No changes from what was agreed upon during development.
68	F	2												Ν	S	A-345G2.4.4
																No changes from what was agreed upon during development.
69	Н	2												N	S	E-3G2.4.24

Q	1.	2.	3. Psych	omeric Fla	WS			4. Job	Content Fl	aws		5. Othe	r	6.	7.	8. Explanation
	LOK	LOD	Stem	Cues	T/	Cred.	Partial	Job-	Minutia	#/	Back	Q –	SRO	B, M,	U, E,	
	(F/H)	(1-5)	FOCUS		F	Dist		LINK		Units	ward	K/A	Only	IN	3	
																No changes from what was agreed upon during development.
70	Н	2												В	S	ECA-1.1EA1.03
																No changes from what was agreed upon during development.
71	н	2												N	9	ER_H 1EK2 05
<i>'</i> '		2													0	
																No material changes from what was agreed upon during
																development
																development.
70	-	0												NI	~	
12	F	2												IN	5	SDP-TEK3.17
																No changes from what was agreed upon during development.
	_	-													_	
73	F	2												Ν	S	SDP-2EK1.17
																No material changes from what was agreed upon during
																development.
74	F	2												N	S	FH-H.2G2.1.19
																No changes from what was agreed upon during development.
75	Н	2												Ν	S	FR-I.1EK1.01
																No material changes from what was agreed upon during
																development.
SRO	EXAM															
1	н	2				1		1			1		1	Ν	S	E-0EA2.03
·		-													Ē	
																No changes from what was agreed upon during development
2	F	2												B	9	ES-1 202 1 18
2	1	2												Б	3	
																No material changes from what was agreed upon during
																development.

Q	1.	2.	3. Psycho	omeric Fla	WS			4. Job	Content FI	aws		5. Othe	r	6.	7.	8. Explanation
	LOK	LOD	Stem	Cues	T/	Cred.	Partial	Job-	Minutia	#/	Back	Q –	SRO	B, M,	U, E,	
	(F/H)	(1-5)	Focus		F	Dist		Link		Units	ward	K/A	Only	N	S	
-																
3	Н	2												М	S	FR-C.3G2.4.14
																No changes from what was agreed upon during development.
4	Н	2												М	S	MSSA2.07
																No changes from what was agreed upon during development.
5	Н	2												В	S	RCSA2.30
																No changes from what was agreed upon during development.
																Note: 2015 NRC exam Q8.
6	F	2												Ν	S	G2.2.11
																No material changes from what was agreed upon during
																development.
7	Н	2												В	S	G2.2.2
																No changes from what was agreed upon during development.
8	F	2												В	S	G2.3.2
																No changes from what was agreed upon during development.
9	Н	2												В	S	G2.4.24
																No material changes from what was agreed upon during
																development.
10	Н	2			l									N	S	A337AA2.01
																Second half of Q modified.
11	F	2												Ν	S	FR-S.1G2.4.7
																No material changes from what was agreed upon during
																development.
12	Н	2												Ν	S	SDP-1G2.4.36

Q	1.	2.	3. Psychol	omeric Fla	WS			4. Job	Content Fla	aws		5. Other	r	6.	7.	8. Explanation
	LOK	LOD	Stem	Cues	Τ/	Cred.	Partial	Job-	Minutia	#/	Back	Q –	SRO	B, M,	U, E,	
L	(F/H)	(1-5)	Focus		F	Dist		Link		Units	ward	K/A	Only	N	S	
																No changes from what was agreed upon during development.
13	Н	2												Ν	S	RNSG2.4.39
																No material changes from what was agreed upon during development.
14	F	2												Ν	S	DRCSA2.08
																No changes from what was agreed upon during development.
15	Н	2												Ν	S	IISG2.4.7
																Expected changes made.
16	Н	2												Ν	S	SFSG2.1.28
																Expected changes made.
17	Н	2												Ν	S	G2.3.9
																Half of Q replaced.
18	Н	2												Ν	S	G2.1.2
																No changes from what was agreed upon during development.
19	Н	2												Ν	S	ES-0.1G2.1.27
																No changes from what was agreed upon during development.
20	Н	2												Ν	S	SDP-2EA2.05
																No material changes from what was agreed upon during development.
21	F	2												Ν	S	A-328AA2.05
																No material changes from what was agreed upon during development.
22	Н	2												Ν	S	CASG2.2.17

Q	1.	2.	<ol><li>Psych</li></ol>	omeric Fla	WS			4. Job	Content Fla	aws		5. Other		6.	7.	8. Explanation
	LOK	LOD	Stem	Cues	T/	Cred.	Partial	Job-	Minutia	#/	Back	Q –	SRO	B, M,	U, E,	
	(F/H)	(1-5)	Focus		F	Dist		Link		Units	ward	K/A	Only	N	S	
																Expected changes made.
23	Н	2												Ν	S	PCSG2.1.14
																No changes from what was agreed upon during development.
24	Н	2												Ν	S	A-306AA2.03
																Expected changes made.
25	F	2												Ν	S	G2.4.25
																No changes from what was agreed upon during development.

# Written Examination Grading Quality Checklist

Fa	cility: V.C. Summer Date of Exam: 9/29/16 Exam Level:	RO 🗌	SRO	×
	Item Description		Initials	
		а	b	С
1.	Clean answer sheets copied before grading	M	N/A	mB
2.	Answer key changes and question deletions justified and documented	ND	N/A	MB
3.	Applicants' scores checked for addition errors		N/A	
		/D		WB
4.	Grading for all borderline cases (80 $\pm$ 2% overall and 70 or 80, as applicable, $\pm$ 4% on the SRO-only) reviewed in detail	NO	N/A	MB
5.	All other failing examinations checked to ensure that grades are justified	M	N/A	MB
6.	Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	10	N/A	WB
	Printed Name/Signature		Date	
a.	Grader Michael G. Donithan Mills Durth		12/16	-
b.	Facility Reviewer(*) <u>N/A</u>			_
C.	NRC Chief Examiner (*) Mark A. Bates Multi-	5 10/	21/16	
d.	NRC Supervisor (*) Eugene F. Guthrie	<u>v#</u>	12/14	2
(*)	The facility reviewer's signature is not applicable for examination NRC; two independent NRC reviews are required.	ns grade	d by the	9



Paul A. Mothena Manager, Nuclear Training 803.345.4642

June 09, 2016

Mr. Eugene F. Guthrie, Chief Operations Branch 2 Division of Reactor Safety U. S. Nuclear Regulatory Commission, Region II 245 Peachtree Center Ave. N.E., Suite 1200 Atlanta, GA 30303-1257

Dear Mr. Guthrie:

Subject: VIRGIL C. SUMMER NUCLEAR STATION UNIT 2 DOCKET NO. 52-027 OPERATING LICENSE NO. NPF-93 REACTOR AND SENIOR REACTOR OPERATOR WRITTEN EXAMINATION AND SUPPORTING REFERENCE MATERIAL

Based on the guidelines in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors", Revision 10, in particular ES-301, "Preparing Initial Operating Tests," South Carolina Electric & Gas Company is providing the following information for your consideration:

- Enclosure 1 ES-201-2, Examination Outline Quality Checklist
- Enclosure 2 ES-201-3, Examination Security Agreement
- Enclosure 3 ES-401-4, Record of Rejected K/As
- Enclosure 4 ES-401N-5, Sample Written Examination Question Worksheet
- Enclosure 5 ES-401N-6, Written Examination Quality Checklist
- Enclosure 6 Written Exam Hard Copy with Supporting Documentation
- Enclosure 7 Written Exam Electronic Files on DVD-ROM
- Enclosure 8 Supporting Reference Documentation Files on DVD-ROM

The enclosed examination materials have been independently reviewed by Mr. Albert C. Harris, NND Nuclear Operations Manager. In accordance with NUREG-1021, this material must be withheld from public disclosure until the examinations are complete.

Should there be any questions, please contact Mr. Scott C. Dimeler at (803) 931-5409.

erry truly yours,

Paul A. Mothena

RTS (CR-NND-16-00973) File (814.04, RR 1050) PRSF (RC-16-0090)

KB/PAM/ts Enclosures

- c: (Without Enclosures unless noted)
  - G. J. McCoy
  - M. A. Bates
  - S. C. Dimeler NRC Resident Inspector DCRM



Paul A. Mothena Manager, Nuclear Training 803.345.4642

> July 22, 2016 NND-16-0285

Mr. Eugene F. Guthrie, Chief Operations Branch 2 Division of Reactor Safety U. S. Nuclear Regulatory Commission, Region II 245 Peachtree Center Ave. N.E., Suite 1200 Atlanta, GA 30303-1257

Subject: VIRGIL C. SUMMER NUCLEAR STATION UNIT 2 DOCKET NO. 52-027 OPERATING LICENSE NO. NPF-93 REACTOR AND SENIOR REACTOR OPERATIONAL EXAMINATION AND SUPPORTING REFERENCE MATERIAL

Dear Mr. Guthrie,

Based on the guidelines in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors", Revision 10, in particular ES-301, "Preparing Initial Operating Tests," South Carolina Electric & Gas Company is providing the following information for your consideration:

- Enclosure 1 ES-201-2, Examination Outline Quality Checklist
- Enclosure 2 ES-201-3, Examination Security Agreement
- Enclosure 3 ES-301-1, Administrative Topics Outline
- Enclosure 4 ES-301-2, Control Room/In-Plant Systems Outline
- Enclosure 5 ES-301-3, Operating Test Quality Checklist
- Enclosure 6 ES-301-4, Simulator Scenario Quality Checklist
- Enclosure 7 ES-301-5, Transient and Event Checklist
- Enclosure 8 ES-301-6, Competencies Checklist
- Enclosure 9 ES-D-1, Scenario Outline
- Operational Exam Electronic Files (including ES-D-2) on DVD-ROM
- Supporting Reference Documentation Files on DVD-ROM

The enclosed examination materials have been independently reviewed by Mr. Albert C. Harris, NND Nuclear Operations Manager. In accordance with NUREG-1021, this material must be withheld from public disclosure until the examinations are complete.

NND-16-0285 Page 2 of 2

Should there be any questions, please contact Mr. Scott C. Dimeler at (803) 931-5409.

Very truly yours,

hala Mathe

Paul A. Mothena Manager, Nuclear Training

KB/PAM/ts Enclosures

c: (Without Enclosures unless noted) G. J. McCoy M. A. Bates S. C. Dimeler NRC Resident Inspector DCRM CR-NND-16-00973



Paul A. Mothena Manager, Nuclear Training 803.345.4642

> October 06, 2016 NND-16-0429

Mr. Eugene F. Guthrie, Chief Operations Branch 2 Division of Reactor Safety U. S. Nuclear Regulatory Commission, Region II 245 Peachtree Center Ave. N.E., Suite 1200 Atlanta, GA 30303-1257

Subject: Virgil C. Summer Nuclear Station Unit 2 Docket No. 52-027 Operating License No. NPF-93 Post Exam Submittal

Dear Mr. Guthrie,

The V. C. Summer Nuclear Station (VCSNS) Initial Operator License Examination was administered during the weeks of September 12, 2016 and September 19, 2016. The VCSNS Initial License Written Examination was administered on September 29, 2016. VCSNS is enclosing the following as required by Revision 10, of NUREG 1021, "Operator Licensing Examination Standards for Power Reactors:"

- 1. Graded written examinations;
- 2. Master examinations and answer keys;
- 3. Questions asked by and answers given to the applicants during the written examination;
- 4. Written examination seating chart;
- 5. Written examination performance analysis; and
- 6. Original Forms ES-201-3, "Examination Security Agreement."

Should there be any questions, please contact Mr. Scott C. Dimeler at (803) 931-5409.

Respectfully /HUDSICKSR For Paul A. Mothena

Paul A. Mothena Manager, Nuclear Training

KB/PAM/ts Enclosures

- c: (Without Enclosures unless noted)
  - C. Haney
  - M. A. Bates
  - S. C. Dimeler

NRC Resident Inspector DCRM CR-NND-16-00973