

ES-201

Examination Preparation Checklist

Form ES-201-1

Facility: <u>SURRY</u>		Date of Examination: <u>Aug 2021</u>
Developed by: Written: <input checked="" type="checkbox"/> Facility <input type="checkbox"/> NRC // Operating <input checked="" type="checkbox"/> Facility <input type="checkbox"/> NRC		
Target Date*	Task Description (Reference)	Chief Examiner's Initials
-240	1. Examination administration date confirmed (C.1.a; C.2.a-b). For NRC-prepared exams, arrangements are made for the facility to submit reference materials (C.1.e; C.3.c; Attachment 3). <u>11-10-2020</u>	<u>BCL</u>
-210	2. NRC examiners and facility contact assigned (C.1.d; C.2.f). <u>11-10-2020</u>	<u>BCL</u>
-210	3. Facility contact briefed on security and other requirements (C.2.c). As applicable, the facility contact submits to the NRC any prescreened K/As for elimination from the written examination outline, with a description of the facility's prescreening process (ES-401, D.1.b). <u>8-19-2020</u>	<u>BCL</u>
-210	4. Reference material due for NRC-prepared exams (C.1.e; C.3.c; Attachment 3).	<u>N/A</u>
-210	5. Corporate notification letter sent (C.2.e). <u>11-16-2020</u>	<u>BCL</u>
-195	6. NRC-developed written examination outline (ES-401-1/2 or ES-401N-1/2 and ES-401-3 or ES-401N-3) sent to facility contact (must be on the exam security agreement) (C.1.e-f; C.2.h; C.3.d-e). <u>8-19-2020</u>	<u>BCL</u>
-150	7. Operating test outline(s) and other checklists due, including Forms ES-201-2, ES-201-3, ES-301-1, ES-301-2, ES-301-5, and ES-D-1, as applicable (C.1.e-f; C.3.d-e). <u>3-15-2021</u>	<u>BCL</u>
-136	8. Operating test outline(s) reviewed by the NRC and feedback provided to facility licensee (C.2.h; C.3.d-e). <u>(received early) 3-8-2021</u>	<u>BCL</u>
-75	9. Proposed examinations (written, JPMs, and scenarios, as applicable) and outlines (Forms ES-301-1, ES-301-2, ES-D-1, ES-401-1/2 or ES-401N-1/2, and ES-401-3 or ES-401N-3); supporting documentation (including Forms ES-301-3, ES-301-4, ES-301-5, ES-301-6, ES-401-6, ES-401N-6, and any Form ES-201-2 and ES-201-3 updates); and reference materials due (C.1.e-h; C.3.d). <u>6-11-2021</u>	<u>BCL</u>
-75	10. Examinations prepared by the NRC are approved by the NRC supervisor and forwarded for facility licensee review (C.1.i; C.2.h; C.3.f-g).	<u>N/A</u>
-60	11. Preliminary waiver/excusal requests due (C.1.m; C.2.c; ES-202). <u>6-24-2021</u>	<u>BCL</u>
-50	12. Written exam and operating test reviews completed (C.3.f). <u>6-28-2021</u>	<u>BCL</u>
-35	13. Examination review results discussed between the NRC and facility licensee (C.1.i; C.1.k-l; C.2.h; C.3.g). The NRC and the facility licensee conduct exam preparatory week. <u>7-19-21</u>	<u>BCL</u>
-30	14. Preliminary license applications and waiver/excusal requests, as applicable (NRC Form 398) due (C.1.m; C.2.i; ES-202). <u>7-23-2021</u>	<u>BCL</u>
-14	15. Final license applications and waiver/excusal requests, as applicable (NRC Form 398), due and Form ES-201-4 prepared (C.1.m; C.2.k; ES-202). <u>8-9-2021</u>	<u>BCL</u>
-7	16. Written examinations and operating tests approved by the NRC supervisor (C.2.j-k; C.3.h). <u>8-13-2021</u>	<u>BCL</u>
-7	17. Request facility licensee management feedback on the examination (C.2.l). <u>(G. M. Coy)</u>	<u>BCL</u>
-7	18. Final applications reviewed; one or two (if more than 10) applications audited to confirm qualifications/eligibility; and examination approval and waiver/excusal letters sent (C.2.k; Attachment 5; ES-202, C.3.j; ES-204). <u>8-5-2021</u>	<u>BCL</u>
-7	19. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k). <u>9/1/21</u>	<u>BCL</u>
-7	20. Approved scenarios and job performance measures distributed to NRC examiners (C.3.i). <u>8/20/21</u>	<u>BCL</u>

* Target dates are based on facility-prepared examinations and the examination date identified in the corporate notification letter. These dates are for planning purposes and may be adjusted on a case-by-case basis in coordination with the facility licensee.

Facility:		Date of Examination:																											
Item	Task Description	Initials																											
		a	b*	c**																									
WRITTEN	1. a. Verify that the outline(s) fit(s) the appropriate model in accordance with ES-401 or ES-401N.	<i>[initials]</i>	<i>[initials]</i>	blc																									
	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.	<i>[initials]</i>	<i>[initials]</i>	blc																									
	c. Assess whether the outline overemphasizes any systems, evolutions, or generic topics.	<i>[initials]</i>	<i>[initials]</i>	blc																									
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	<i>[initials]</i>	<i>[initials]</i>	blc																									
SIMULATOR	2. 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.	<i>[initials]</i>	<i>[initials]</i>	blc																									
	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.	<i>[initials]</i>	<i>[initials]</i>	blc																									
	c. To the extent possible, assess whether the outline(s) conforms with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D and in Section D.5, "Specific Instructions for the 'Simulator Operating Test,'" of ES-301 (including overlap).	<i>[initials]</i>	<i>[initials]</i>	blc																									
WALKTHROUGH	3. a. Verify that the systems walkthrough outline meets the criteria specified on Form ES-301-2: (1) The outline(s) contains the required number of control room and in-plant tasks distributed among the safety functions as specified on the form. (2) Task repetition from the last two NRC examinations is within the limits specified on the form. (3) No tasks are duplicated from the applicant's audit test(s). (4) The number of new or modified tasks meets or exceeds the minimums specified on the form. (5) The number of alternate-path, low-power, emergency, and radiologically controlled area tasks meets the criteria on the form.	<i>[initials]</i>	<i>[initials]</i>	blc																									
	b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) The tasks are distributed among the topics as specified on the form. (2) At least one task is new or significantly modified. (3) No more than one task is repeated from the last two NRC licensing examinations.	<i>[initials]</i>	<i>[initials]</i>	blc																									
	c. Determine whether there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.	<i>[initials]</i>	<i>[initials]</i>	blc																									
GENERAL	4. a. Assess whether plant-specific priorities (including probabilistic risk assessment and individual plant examination insights) are covered in the appropriate exam sections.	<i>[initials]</i>	<i>[initials]</i>	blc																									
	b. Assess whether the 10 CFR 55.41, 55.43, and 55.45 sampling is appropriate.	<i>[initials]</i>	<i>[initials]</i>	blc																									
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	<i>[initials]</i>	<i>[initials]</i>	blc																									
	d. Check for duplication and overlap among exam sections and the last two NRC exams.	<i>[initials]</i>	<i>[initials]</i>	blc																									
	e. Check the entire exam for balance of coverage.	<i>[initials]</i>	<i>[initials]</i>	blc																									
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	<i>[initials]</i>	<i>[initials]</i>	blc																									
<table border="0"> <tr> <td colspan="2"></td> <td colspan="2">Printed Name/Signature</td> <td>Date</td> </tr> <tr> <td>a. Author</td> <td><u>WALTER J. FORD</u></td> <td><u>[Signature]</u></td> <td></td> <td><u>07/29/21</u></td> </tr> <tr> <td>b. Facility Reviewer (*)</td> <td><u>Geoffrey R. Hill</u></td> <td><u>[Signature]</u></td> <td></td> <td><u>07/29/21</u></td> </tr> <tr> <td>c. NRC Chief Examiner (#)</td> <td><u>Bruno L. Caballero</u></td> <td><u>[Signature]</u></td> <td>Digitally signed by Bruno L. Caballero Date: 2021.08.10 11:01:36 -04'00'</td> <td></td> </tr> <tr> <td>d. NRC Supervisor</td> <td><u>[Signature]</u></td> <td><u>[Signature]</u></td> <td>Digitally signed by Gerald J. McCoy Date: 2021.08.13 08:37:09 -04'00'</td> <td></td> </tr> </table>							Printed Name/Signature		Date	a. Author	<u>WALTER J. FORD</u>	<u>[Signature]</u>		<u>07/29/21</u>	b. Facility Reviewer (*)	<u>Geoffrey R. Hill</u>	<u>[Signature]</u>		<u>07/29/21</u>	c. NRC Chief Examiner (#)	<u>Bruno L. Caballero</u>	<u>[Signature]</u>	Digitally signed by Bruno L. Caballero Date: 2021.08.10 11:01:36 -04'00'		d. NRC Supervisor	<u>[Signature]</u>	<u>[Signature]</u>	Digitally signed by Gerald J. McCoy Date: 2021.08.13 08:37:09 -04'00'	
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<p>* Not applicable for NRC-prepared examination outlines.</p> <p># The independent NRC reviewer initials items in column "c"; the chief examiner's concurrence is required.</p>																													































Facility: Surry		Date of Examination: Week of 10/4/2021		
Item	Task Description	Initials		
		a	b*	c**
1. WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model in accordance with ES-401 or ES-401N.	n-1	n-1	n-1
	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.	n-1	n-1	n-1
	c. Assess whether the outline overemphasizes any systems, evolutions, or generic topics.	n-1	n-1	n-1
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	n-1	n-1	n-1
2. SIMULATOR	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, technical specifications, and major transients.	n-1	n-1	n-1
	b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity, and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s), and that scenarios will not be repeated on subsequent days.	n-1	n-1	n-1
	c. To the extent possible, assess whether the outline(s) conforms with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D and in Section D.5, "Specific Instructions for the 'Simulator Operating Test,'" of ES-301 (including overlap).	n-1	n-1	n-1
3. WALKTHROUGH	a. Verify that the systems walkthrough outline meets the criteria specified on Form ES-301-2: (1) The outline(s) contains the required number of control room and in-plant tasks distributed among the safety functions as specified on the form. (2) Task repetition from the last two NRC examinations is within the limits specified on the form. (3) No tasks are duplicated from the applicant's audit test(s). (4) The number of new or modified tasks meets or exceeds the minimums specified on the form. (5) The number of alternate-path, low-power, emergency, and radiologically controlled area tasks meets the criteria on the form.	m	l	blc
	b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) The tasks are distributed among the topics as specified on the form. (2) At least one task is new or significantly modified. (3) No more than one task is repeated from the last two NRC licensing examinations.	m	l	blc
	c. Determine whether there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.	m	l	blc
4. GENERAL	a. Assess whether plant-specific priorities (including probabilistic risk assessment and individual plant examination insights) are covered in the appropriate exam sections.	m	l	blc
	b. Assess whether the 10 CFR 55.41, 55.43, and 55.45 sampling is appropriate.	m	l	blc
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	m	l	blc
	d. Check for duplication and overlap among exam sections and the last two NRC exams.	m	l	blc
	e. Check the entire exam for balance of coverage.	m	l	blc
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	m	l	blc
Printed Name/Signature		Date		
a. Author	Michael R Meyer / <i>Michael R Meyer</i>	9/28/2021		
b. Facility Reviewer (*)	Geoffrey R. Hill / <i>Geoffrey R. Hill</i>	9/28/2021		
c. NRC's Chief Examiner (#)	Bruno L. Caballero	Digitally signed by Bruno L. Caballero Date: 2021.10.01 09:20:24 -04'00'		
d. NRC Supervisor	<i>Gerald J. McCoy</i>	Digitally signed by Gerald J. McCoy Date: 2021.10.04 15:18:10 -04'00'		
* Not applicable for NRC-prepared examination outlines. # The independent NRC reviewer initials items in column "c"; the chief examiner's concurrence is required.				

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the U.S. Nuclear Regulatory Commission (NRC) licensing examinations scheduled for the week(s) of 8/23/21 ^{and} 8/30/21 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's 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's 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 8/23/21 and 8/30/21. 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. W. Joe Fogg	Lead Exam Author		08/19/20		9/3/21	
2. Mike Meyer	Exam Author		08/19/20		9/3/21	
3. Christopher G. Huth	Simulator Software		8/19/20		9/17/21	
4. Sean Leasure	Simulator OPS.		8/19/20		9/17/21	
5. Frank Pace	SIMULATOR HARDWARE		8/19/20		9/17/21	
6. Aaron D. Brown	SIMULATOR SOFTWARE		8/19/20		9/17/21	
7. Jeff Chapin	LORP Exam Author		8/19/20		9/17/21	
8. Jessie Sato	OFF-SHIFT SM		9/29/20		9/17/21	
9. Jeremy Riddick	Instructor / STA		9/30/20		9/17/21	
10. Geoffrey Hill	Manager - Training		7/30/21		9/17/21	
11. Charlene Stump	Senior Graphic Designer		10/14/20		9/14/21	
12. Rich Philpot	EP/LICENSING MANAGER		1/12/21		9/17/21	
13. Kevin Caputo	EP Specialist		1/27/21		9/17/21	
14. Doug Walden	On Shift SKO/STA		2/16/21		9/17/21	
15. Kenneth Unikel	SKO/STA/Off Shift		2/19/21		9/17/21	

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1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the U.S. Nuclear Regulatory Commission (NRC) licensing examinations scheduled for the week(s) of 8/23/21 - 8/30/21 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's 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's 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 8/23/21 - 8/30/21. 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. J. Burley	Control Room Operator		2/23/21		9/10/21	
2. N. King	Unit Supervisor		3/12/21		9/10/21	
3. J. Elmore	Control Room Operator		3-2-21		9/10/21	
4. B. Barcher	Control Room Operator		3/9/21		9/10/21	
5. S. M. J. (J. M. J.)	Unit Supervisor		3/9/21		9/10/21	
6. S. Casey	Control Room Operator		3/9/21		9/10/21	
7. P. L. (L. L.)	UNIT SUPERVISOR		3/9/21		9/10/21	
8. Bonnie Jurewicz	Ops Assessor PIKT		3/17/21		9/10/21	
9. G. J. (J. J.)	Unit Supervisor		3/23/21		9/10/21	
10. Bob J. (J. J.)	CONTROL ROOM OPERATOR		3/23/21		9/10/21	
11. CHRIS McKNIGHT	UNIT SUPERVISOR		5/11/21		9/10/21	
12. Denise V. Gendler	Reactor Operator		5/11/21		9/10/21	
13. Joshua Bartels	Reactor Operator		5/11/21		9/10/21	
14. Mike T. (T. T.)	LICENSING		5/11/21		9/10/21	
15. T. Goodman	Reactor Operator		5/11/21		9/10/21	





















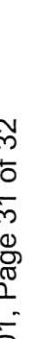



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1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the U.S. Nuclear Regulatory Commission (NRC) licensing examinations scheduled for the week(s) of 8/12/21 - 8/16/21 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's 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's 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 8/12/21 - 8/16/21. 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. Steven Owen	Instructor		5/20/21		9/7/21	
2. Jason Sweetman	Instructor		6/7/21		9/7/21	
3. Dan Owen	Control Room Operator		6/2/21		9/7/21	
4. Daniel Anew	REACTOR ENG.		6/14/21		9/7/21	
5. Eric Watson	REACTOR OPERATOR		6/29/21		9/3/21	
6. Rob Lewis	Senior Reactor Operator		6/29/21		9/3/21	
7. Kelly	SPW		7/13/21		9/6/21	
8. Matt Coulter	RO		7/13/21		9/8/21	
9. Ian Spadman	RO		7/13/21		9/8/21	
10. Kevin Bessanoy	RO		7-19-21		9/8/21	
11. Robert Young	Instructor		7/19/21		9/7/21	
12. Rodney Adams	SPW		7/19/21		9/8/21	
13. James Dwyer	RO		7/21/21		9/7/21	
14. Daniel Smith	SPW		7/21/21		9-7-21	
15. Allen Harrison	RO		7-21-21		9-9-21	

NOTES:

1. Pre-Examination

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PRINTED NAME	JOB TITLE/RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1. <u>R. BOWEN</u>	<u>NUCLEAR INSTRUCTOR</u>	<u>R. Bowen</u>	<u>8/20/21</u>	<u>R. Bowen</u>	<u>9/7/21</u>	
2. <u>TIM GREEN</u>	<u>ASST OPS MANAGER</u>	<u>Tim Green</u>	<u>8/23/21</u>	<u>Tim Green</u>	<u>9/9/21</u>	
3. <u>C. Irwin</u>	<u>SUPV-NUC TRS</u>	<u>C. Irwin</u>	<u>8/20/21</u>	<u>C. Irwin</u>	<u>9-3-21</u>	
4. <u>M. HANREHAN</u>	<u>ILT INSTRUCTOR</u>	<u>M. Hanrehan</u>	<u>8/23/21</u>	<u>M. Hanrehan</u>	<u>9-3-21</u>	
5. <u>BRIAN BECKER</u>	<u>ILT INSTRUCTOR</u>	<u>Brian Becker</u>	<u>8/23/21</u>	<u>Brian Becker</u>	<u>9/3/21</u>	
6. <u>Regina Irwin</u>	<u>food</u>	<u>Regina Irwin</u>	<u>8/23/21</u>	<u>Regina Irwin</u>	<u>9/8/21</u>	
7. <u>TODD YOUNG</u>	<u>INST.</u>	<u>Todd Young</u>	<u>9/13/21</u>	<u>Todd Young</u>	<u>9/13/21</u>	
8. <u>WILLIAM MARSHALL</u>	<u>INST.</u>	<u>William Marshall</u>	<u>9/13/21</u>	<u>William Marshall</u>	<u>9/13/21</u>	
9. <u>TODD YOUNG</u>	<u>INST.</u>	<u>Todd Young</u>	<u>9/7/21</u>	<u>Todd Young</u>	<u>9/13/21</u>	
10.						
11.						
12.						
13.						
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NOTES:

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the U.S. Nuclear Regulatory Commission (NRC) licensing examinations scheduled for the week(s) of 10/04/2021 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's 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's 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 10/4/21. 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. W. Joe Ford	Lead Exam Author	<i>W. Joe Ford</i>	08/30/21	<i>W. Joe Ford</i>	10/6/21	
2. Mike Meyer	Exam Author	<i>Mike Meyer</i>	9/30/21	<i>Mike Meyer</i>	10/6/21	
3. Carl Irwin	Exam Supv	<i>Carl Irwin</i>	8/30/21	<i>Carl Irwin</i>	10/6/21	
4. Geoff Hill	Training Mgr	<i>Geoff Hill</i>	8/30/21	<i>W. Joe Ford</i> (for G. Hill per telecon)	10/7/21	
5. Frank Pace	SIMULATOR HARDWARE	<i>Frank Pace</i>	8/30/21	<i>Frank Pace</i>	10-7-21	
6. Jessie Soto	Operations Rep	<i>Jessie Soto</i>	9/1/21	<i>W. Joe Ford</i> (for J. Soto per telecon)	10/6/21	
7. Brown, Aaron D	SIMULATOR SOFTWARE	<i>Aaron D. Brown</i>	08 Sept 21	<i>Aaron D. Brown</i>	07 Oct 21	
8. Huth Christopher G.	SSG SW	<i>Chris Huth</i>	9/2/21	<i>W. Joe Ford</i> (for C. Huth per telecon)	10/7/21	
9. LOCASCIO SEAN	SSG	<i>Sean Locascio</i>	9/2/21	<i>W. Joe Ford</i> (for S. Locascio per telecon)	10/7/21	
10. BOB SEAKING	RO	<i>Bob Seaking</i>	9/14/21	<i>Bob Seaking</i>	10/7/21	
11. Daniel V. Gonzalez	RO	<i>Daniel V. Gonzalez</i>	9/14/21	<i>Daniel V. Gonzalez</i>	10/7/21	
12. Kevin Labat	EP Specialist	<i>Kevin Labat</i>	9/14/21	<i>Kevin Labat</i>	10/7/21	
13. Jeff Chapin	Training Sup	<i>Jeff Chapin</i>	9/16/21	<i>Jeff Chapin</i>	10/6/21	
14. Steven Owen	Training Instructor	<i>Steven Owen</i>	9/17/21	<i>W. Joe Ford</i> (for S. Owen per telecon)	10/7/21	
15. Ian Goodman	RO	<i>Ian Goodman</i>	9/22/21	<i>Ian Goodman</i>	10/6/21	




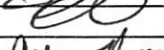


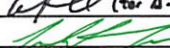
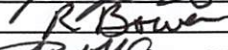
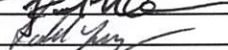


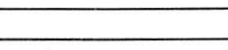
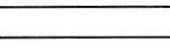

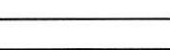
NOTES:

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the U.S. Nuclear Regulatory Commission (NRC) licensing examinations scheduled for the week(s) of 10/4/2021 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's 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's chief examiner any indications or suggestions that examination security may have been compromised.






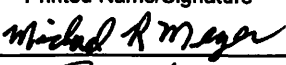

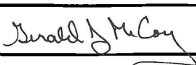
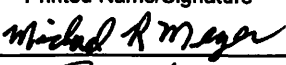

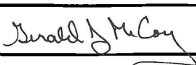
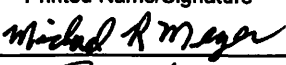

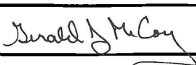
2. Post-Examination

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 10/4/21. 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. Joshua Trayer	RO		9/27/21	WTR (for J. Trayer Per Jackson)	10/10/21	
2. Andrew Enyer	RO		9/27/21		10/7/21	
3. Robert Young	Instructor		9/27/21		10/6/21	
4. James McLoughlin	RO		9/29/21		10/12/21	
5. Allen Hardison	RO		9/30/21	WTR (for A. Hardison Per Jackson)	10/7/21	
6. Robert Tennilliger	RO		10/4/21		10/6/21	
7. Rich Bowen	Instructor		10/4/21	RB Bowen	10/6/21	
8. Paul Morrison	Instructor		10/4/21		10/6/21	
9. Todd Young	LAST		10/4		10/6/21	
10.						
11.						
12.						
13.						
14.						
15.						

NOTES:

Facility: <u>SURRY</u>		Date of Examination: <u>08/23/21</u>		Operating Test Number: <u>2021-301</u>	
1. General Criteria			Initials		
			a	b*	c#
a.	The operating test conforms to the previously approved outline; changes are consistent with sampling requirements (e.g., 10 CFR 55.45, operational importance, safety function distribution).	<u>✓</u>	<u>ℓ</u>	<u>blc</u>	
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	<u>✓</u>	<u>ℓ</u>	<u>blc</u>	
c.	The operating test shall not duplicate items from the applicants' audit test(s) (see Section D.1.a.).	<u>✓</u>	<u>ℓ</u>	<u>blc</u>	
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.	<u>✓</u>	<u>ℓ</u>	<u>blc</u>	
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	<u>✓</u>	<u>ℓ</u>	<u>blc</u>	
2. Walkthrough Criteria			--	--	--
a.	Each JPM includes the following, as applicable: <div style="margin-left: 20px;"> <u>initial conditions</u> <u>initiating cues</u> <u>references and tools, including associated procedures</u> <u>reasonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time critical by the facility licensee</u> <u>operationally important specific performance criteria that include—</u> <u>detailed expected actions with exact criteria and nomenclature</u> <u>system response and other examiner cues</u> <u>statements describing important observations to be made by the applicant</u> <u>criteria for successful completion of the task</u> <u>identification of critical steps and their associated performance standards</u> <u>restrictions on the sequence of steps, if applicable</u> </div>	<u>✓</u>	<u>ℓ</u>	<u>blc</u>	
b.	Ensure that any changes from the previously approved systems and administrative walkthrough outlines (Forms ES-301-1 and ES-301-2) have not caused the test to deviate from any of the acceptance criteria (e.g., item distribution, bank use, repetition from the last two NRC examinations) specified on those forms and Form ES-201-2.	<u>✓</u>	<u>ℓ</u>	<u>blc</u>	
3. Simulator Criteria			--	--	--
The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4, and a copy is attached.			<u>✓</u>	<u>ℓ</u>	<u>blc</u>
Printed Name/Signature		Date			
a.	Author <u>Walter J. Ford</u> / <u>[Signature]</u>	<u>08/02/2021</u>			
b.	Facility Reviewer (*) <u>Geoffrey R. Hill</u> / <u>[Signature]</u>	<u>08/02/2021</u>			
c.	NRC Chief Examiner (#) <u>Bruno L. Caballero</u>	Digitally signed by Bruno L. Caballero Date: 2021.08.10 11:12:05 -04'00'			
d.	NRC Supervisor <u>Gerald J. McCoy</u>	Digitally signed by Gerald J. McCoy Date: 2021.08.13 08:40:28 -04'00'			
<p>* The facility licensee signature is not applicable for NRC-developed tests.</p> <p># The independent NRC reviewer initials items in column "c"; the chief examiner concurrence is required.</p>					

Facility: Surry		Date of Examination: 10/4/2021		Operating Test Number: 2021-301																
1. General Criteria			Initials																	
			a	b*	c*															
a.	The operating test conforms to the previously approved outline; changes are consistent with sampling requirements (e.g., 10 CFR 55.45, operational importance, safety function distribution).	m	l	blc																
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	m	l	blc																
c.	The operating test shall not duplicate items from the applicants' audit test(s) (see Section D.1.a.).	m	l	blc																
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.	m	l	blc																
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	m	l	blc																
2. Walkthrough Criteria			--	--	--															
a.	Each JPM includes the following, as applicable: <div style="margin-left: 20px;">  initial conditions  initiating cues  references and tools, including associated procedures  reasonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time critical by the facility licensee  operationally important specific performance criteria that include— <ul style="list-style-type: none"> — detailed expected actions with exact criteria and nomenclature — system response and other examiner cues — statements describing important observations to be made by the applicant — criteria for successful completion of the task — identification of critical steps and their associated performance standards — restrictions on the sequence of steps, if applicable </div>	m	l	blc																
b.	Ensure that any changes from the previously approved systems and administrative walkthrough outlines (Forms ES-301-1 and ES-301-2) have not caused the test to deviate from any of the acceptance criteria (e.g., item distribution, bank use, repetition from the last two NRC examinations) specified on those forms and Form ES-201-2.	m	l	blc																
3. Simulator Criteria			--	--	--															
The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4, and a copy is attached.			n-1	n-1	n-1															
<table border="0" style="width: 100%;"> <tr> <td></td> <td>Printed Name/Signature</td> <td>Date</td> </tr> <tr> <td>a. Author</td> <td>Michael R Meyer / </td> <td>9/28/2021</td> </tr> <tr> <td>b. Facility Reviewer (*)</td> <td>Geoffrey R. Hill / </td> <td>9/28/2021</td> </tr> <tr> <td>c. NRC Chief Examiner (#)</td> <td>Bruno L. Caballero</td> <td>Digitally signed by Bruno L. Caballero Date: 2021.10.01 09:19:03 -04'00'</td> </tr> <tr> <td>d. NRC Supervisor</td> <td></td> <td>Digitally signed by Gerald J. McCoy Date: 2021.10.04 15:14:23 -04'00'</td> </tr> </table>							Printed Name/Signature	Date	a. Author	Michael R Meyer / 	9/28/2021	b. Facility Reviewer (*)	Geoffrey R. Hill / 	9/28/2021	c. NRC Chief Examiner (#)	Bruno L. Caballero	Digitally signed by Bruno L. Caballero Date: 2021.10.01 09:19:03 -04'00'	d. NRC Supervisor		Digitally signed by Gerald J. McCoy Date: 2021.10.04 15:14:23 -04'00'
	Printed Name/Signature	Date																		
a. Author	Michael R Meyer / 	9/28/2021																		
b. Facility Reviewer (*)	Geoffrey R. Hill / 	9/28/2021																		
c. NRC Chief Examiner (#)	Bruno L. Caballero	Digitally signed by Bruno L. Caballero Date: 2021.10.01 09:19:03 -04'00'																		
d. NRC Supervisor		Digitally signed by Gerald J. McCoy Date: 2021.10.04 15:14:23 -04'00'																		
<p>* The facility licensee signature is not applicable for NRC-developed tests. # The independent NRC reviewer initials items in column "c"; the chief examiner concurrence is required.</p>																				

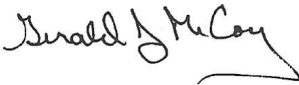
n-1: This ES-301-3 Form is only for JPMs for one applicant who missed JPMs during 8-23-21 Op Test.

Facility: SURRY		Date of Exam: 08/23/21		Scenario Numbers: 3 / 4 / 5		Operating Test No.: 2021-301	
QUALITATIVE ATTRIBUTES			Initials				
			a	b*	c#		
1. The initial conditions are realistic in that some equipment and/or instrumentation may be out of service, but it does not cue the operators into expected events.			/	ℓ	blc		
2. The scenarios consist mostly of related events.			/	ℓ	blc		
3. Each event description consists of the following: the point in the scenario when it is to be initiated the malfunction(s) or conditions that are entered to initiate the event the symptoms/cues that will be visible to the crew the expected operator actions (by shift position) the event termination point (if applicable)			/	ℓ	blc		
4. The events are valid with regard to physics and thermodynamics.			/	ℓ	blc		
5. Sequencing and timing of events is reasonable and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.			/	ℓ	blc		
6. 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.			/	ℓ	blc		
7. The simulator modeling is not altered.			/	ℓ	blc		
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.			/	ℓ	blc		
9. Scenarios are new or significantly modified in accordance with Section D.5 of ES-301.			/	ℓ	blc		
10. All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).			/	ℓ	blc		
11. 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.)			/	ℓ	blc		
12. Each applicant will be significantly involved in the minimum number of transients and events specified on Form ES-301-5 (submit the form with the simulator scenarios).			/	ℓ	blc		
13. Applicants are evaluated on a similar number of preidentified critical tasks across scenarios, when possible.			/	ℓ	blc		
14. The level of difficulty is appropriate to support licensing decisions for each crew position.			/	ℓ	blc		
Target Quantitative Attributes per Scenario (See Section D.5.d)		Actual Attributes	--	--	--		
1. Malfunctions after EOP entry (1-2)		2 / 2 / 2	/	ℓ	blc		
2. Abnormal events (2-4)		4 / 4 / 4	/	ℓ	blc		
3. Major transients (1-2)		1 / 2 / 1	/	ℓ	blc		
4. EOPs entered/requiring substantive actions (1-2)		2 / 1 / 2	/	ℓ	blc		
5. Entry into a contingency EOP with substantive actions (≥ 1 per scenario set)		1 / 1 / 1	/	ℓ	blc		
6. Preidentified critical tasks (≥ 2)		3 / 3 / 3	/	ℓ	blc		
* The facility licensee signature is not applicable for NRC-developed tests. # An independent NRC reviewer initials items in column "c"; chief examiner concurrence is required.							

Facility: Surry Power Station		Date of Exam: 09/07/21		Exam Level: RO <input checked="" type="checkbox"/> SRO <input checked="" type="checkbox"/>			
Item Description				Initial			
				a	b*	c*#	
1. Questions and answers are technically accurate and applicable to the facility.				m	l	blc	
2. a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available. c. Correct answer explanation and distractor analysis provided (ES-401, D.2.g)				m	l	blc	
3. SRO questions are appropriate in accordance with Section D.2.d of ES-401				m	l	blc	
4. The sampling process was random and systematic (If more than four RO or two SRO questions were repeated from the last two NRC licensing exams, consult the NRR/NRO OL program office).				m	l	blc	
5. Question duplication from the licensee screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate. <input type="checkbox"/> the audit exam was systematically and randomly developed, or <input checked="" type="checkbox"/> the audit exam was completed before the license exam was started, or <input type="checkbox"/> the examinations were developed independently, or <input type="checkbox"/> the licensee certifies that there is no duplication, or <input type="checkbox"/> other (explain).				m	l	blc	
6. Bank use meets limits (no more than 75% from the bank, at least 10% new, and the rest new or modified); enter the actual RO / SRO-only question distribution(s) at right.		Bank	Modified	New	m	l	blc
		12 / 5	9 / 0	54 / 20			
7. Between 38 and 45 questions of the questions on the RO exam and at least 13 questions of the questions on the SRO-only portion of the exam are written at the comprehension/analysis level (see ES-401, D.2.c); enter the actual RO / SRO-only question distribution(s) at right.		Memory	C/A		m	l	blc
		36 / 8	39 / 17				
8. References/handouts provided do not give away answers or aid in the elimination of distractors.				m	l	blc	
9. Question content conforms to specific K/A statements in the previously approved examination outline and is appropriate for the tier to which they are assigned; deviations are justified.				m	l	blc	
10. Question psychometric quality and format meet the guidelines in Appendix B.				m	l	blc	
11. The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with the value on the cover sheet.				m	l	blc	
Printed Name / Signature					Date		
a. Author	<u>Michael R Meyer / <i>MMeyer</i></u>				<u>8-10-21</u>		
b. Facility Reviewer (*)	<u>Geoffrey R. Hill / <i>GRHill</i></u>				<u>8-11-21</u>		
c. NRC Chief Examiner (#)	<u>Bruno L. Caballero</u> <small>Digitally signed by Bruno L. Caballero Date: 2021.08.11 15:25:08 -04'00'</small>						
d. NRC Regional Supervisor	<u>Gerald J. McCoy</u> <small>Digitally signed by Gerald J. McCoy Date: 2021.08.13 08:42:26 -04'00'</small>						
Note: * The facility reviewer's initials or signature are not applicable for NRC-developed examinations. # Independent NRC reviewer initials items in Column "c"; chief examiner concurrence is required.							

Facility: SURRY		Date of Exam: 9/3/21		Exam Level: RO <input type="checkbox"/> SRO <input checked="" type="checkbox"/>	
------------------------	--	-----------------------------	--	---	--

Item Description	Initials		
	a	b	c
1. Clean answer sheets copied before grading	JV	N/A	b/c
2. Proposed answer key changes and question deletions justified and documented (facility reviewer initials not required (N/R) if NO post-examination comments are submitted)	JV	N/A	b/c
3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	JV	N/A	b/c
4. Grading for all borderline cases (80% \pm 2% overall and 70% or 80%, as applicable, \pm 4% on the SRO-only exam) reviewed in detail	JV	N/A	b/c
5. All other failing examinations checked to ensure that grades are justified	JV	N/A	b/c
6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by one-half or more of the applicants	JV	N/A	b/c

Printed Name/Signature	Date
a. Grader Joseph P. Viera	<small>Digitally signed by Joseph P. Viera Date: 2021.09.30 10:11:39 -04'00'</small>
b. Facility Reviewer(*) N/A	
c. NRC Chief Examiner (*) Bruno L. Caballero	<small>Digitally signed by Bruno L. Caballero Date: 2021.09.30 10:35:43 -04'00'</small>
d. NRC Supervisor (*) 	<small>Digitally signed by Gerald J. McCoy Date: 2021.10.04 15:16:25 -04'00'</small>

(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

JUN 18 2021

Laura Dudes, Regional Administrator
United States Nuclear Regulatory Commission Region II
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, Georgia 30303-1257

Serial No. 21-070A
SS&L/MMT
Docket Nos. 50-280
50-281
License Nos, DPR-32
DPR-37

Dear Ms. Dudes,

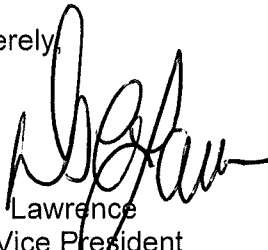
VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
SUBMITTAL OF WRITTEN EXAMINATIONS

NRC letter dated November 16, 2020, Surry Power Station - Notification of Licensed Operator Initial Examination, requested transmittal of operating tests, written examinations, and reference materials to support the initial reactor operator and senior reactor operator tests scheduled for the weeks of August 23, August 30, and September 8, 2021. This letter is to inform you that the written examinations and supporting materials were transmitted on March 31, 2021 and June 9, 2021. All materials were received by the NRC by June 9, 2021.

We request that the materials submitted to the NRC be withheld from public disclosure until after the operator examinations have been administered.

If you have any questions or require additional information, please contact Mr. Walter J. Ford at (757) 365-2835.

Sincerely,



D. C. Lawrence
Site Vice President
Surry Power Station

Commitments made by this letter: None

cc: Mr. Gerald J. McCoy
Chief, Operations Branch
United States Nuclear Regulatory Commission Region II
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, GA 30303-1257

Document Control Desk
United States Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Senior Resident Inspector
Surry Power Station

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

MAR 05 2021

Laura Dudes, Regional Administrator
United States Nuclear Regulatory Commission Region II
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, Georgia 30303-1257

Serial No. 21-070
SS&L/MMT
Docket Nos. 50-280
50-281
License Nos. DPR-32
DPR-37

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
SUBMITTAL OF OPERATING TEST OUTLINE AND
SUPPORTING REFERENCE MATERIALS

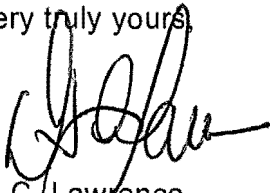
Dear Ms. Dudes,

NRC letter dated November 16, 2020, Surry Power Station - Notification of Licensed Operator Initial Examination, requested transmittal of the operating test outline and supporting reference materials identified in Attachment 3 of ES-201 by March 15, 2021. The written examination and supporting reference material will be due by May 3, 2021 and the operating test will be due by June 11, 2021. The timely submittal will support the initial reactor operator and senior reactor operator test scheduled to be administered during the weeks of August 23, 2021, and August 30, 2021. The written examination is scheduled to be administered on September 8, 2021.

This letter is to inform you that the initial license operating test outlines and Forms ES-201-2, ES-201-3, ES-301-1, ES-301-2, ES-301-5, and ES-D-1 (five scenarios) were transmitted to and received by Mr. Bruno Caballero, NRC Senior Operations Engineer, on February 17, 2021. We request that the materials submitted to the NRC be withheld from public disclosure until after the operator examinations have been administered.

If you have any questions or require additional information, please contact Mr. Walter Joe Ford at (757) 365-2835.

Very truly yours,



D. C. Lawrence
Site Vice President
Surry Power Station

Commitments: None

copy: Mr. Gerald J. McCoy
Chief, Operations Branch
United States Nuclear Regulatory Commission Region II
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, Georgia 30303-1257

Document Control Desk
United States Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Senior Resident Inspector
Surry Power Station

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

September 27, 2021

Laura Dudes, Regional Administrator
United States Nuclear Regulatory Commission Region II
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, Georgia 30303-1257

Serial Number 21-070D
SS&L/MMT
Docket Nos. 50-280
50-281
License Nos. DPR-32
DPR-37

Dear Ms. Dudes,

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
INITIAL POST-EXAMINATION DOCUMENTATION

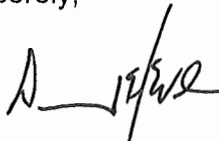
In accordance with NUREG-1021, Revision 11, Operator Licensing Examination Standards for Power Reactors, Virginia Electric and Power Company hereby notifies you of the submission of the information required by Section ES-501, C.1.b, concerning the Reactor Operator and Senior Reactor Operator licensing examination administered at Surry Power Station September 3, 2021.

As set forth in the provisions of 10 CFR 2.390(a)(6), Enclosures 1, 3, 4, 5, and 7 contain personally identifiable information and are to be withheld from public disclosure.

We request that the materials contained in Enclosure 2 be withheld from public disclosure until September 3, 2023, two years after the date of written examination, September 3, 2021.

If you have any questions or require additional information, please contact Mr. Walter Ford or Mr. Michael Meyer at (757) 365-2835.

Sincerely,



For Doug Lawrence

D. C. Lawrence
Site Vice President

Attachment:

Enclosures 1 – 7, required by NUREG-1021, Revision 11, Operator Licensing Examination Standards for Power Reactors, Section ES-501, C.1.b, are listed in the attachment.

Commitments made by this letter: None

Copy:

Mr. Bruno Caballero
Operations Branch
United States Nuclear Regulatory Commission Region II
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, GA 30303-1257

Mr. Gerald McCoy
Chief, Operations Branch
United States Nuclear Regulatory Commission Region II
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, Georgia 30303-1257

Document Control Desk
United States Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Senior Resident Inspector
Surry Power Station

ATTACHMENT

INITIAL POST-EXAMINATION DOCUMENTATION LIST

Enclosure 1	Facility grading of written exam and applicant answer sheet (original)
Enclosure 2	Master RO and SRO Written Examinations and Answer Keys
Enclosure 3	Applicant Questions asked during the Written Examination
Enclosure 4	Post Exam Review Comments and Performance Analysis
Enclosure 5	Seating Chart
Enclosure 6	N/A
Enclosure 7	ES-201-3, Examination Security Agreement

**Virginia Electric and Power Company
(Dominion Energy Virginia)
Surry Station Units 1 and 2**

Enclosure 1

Facility Grading of Written Exam

Applicant Answer sheet (Original)

Copy of Applicant answer sheet

	Answer	Jonathan Owens	Mathew Paddock	Berley Rister	Brian Russell	Joe Pollard	Courtney Tampas	Lorne Archer	Matt Christen	Ron Clement	Miss %
1	A	A	A	A	A	A	A	A	A	A	0.00%
2	A	D	A	A	A	A	A	A	A	A	11.11%
3	D	D	D	D	D	D	D	D	D	D	0.00%
4	A	A	A	A	A	A	A	A	A	A	0.00%
5	B	D	D	B	B	D	B	B	B	B	33.33%
6	B	B	B	B	A	B	B	B	B	B	11.11%
7	C	C	C	C	C	C	C	C	C	C	0.00%
8	B	B	B	B	B	B	B	B	B	B	0.00%
9	A	A	A	A	A	B	B	A	A	A	22.22%
10	C	C	C	C	C	C	C	C	C	C	0.00%
11	A	A	A	A	A	A	A	A	A	A	0.00%
12	D	D	D	D	D	D	D	D	D	D	0.00%
13	B	B	D	B	D	D	D	B	B	B	44.44%
14	C	C	B	C	C	B	B	B	C	C	44.44%
15	D	D	D	D	D	D	D	D	D	D	0.00%
16	C	C	C	C	C	C	C	C	C	C	0.00%
17	B	A	D	B	B	B	B	B	B	A	33.33%
18	B	B	B	B	B	B	B	B	B	B	0.00%
19	A	A	A	A	A	D	A	A	A	A	11.11%
20	A	A	A	A	A	D	A	A	D	A	22.22%
21	C	B	C	C	B	C	C	B	B	C	44.44%
22	C	C	C	C	C	C	C	B	C	C	11.11%
23	D	C	D	D	B	C	C	D	B	D	55.56%
24	C	C	C	D	D	D	C	D	C	C	44.44%
25	D	D	B	D	B	D	D	D	D	D	22.22%
26	A	A	A	A	A	A	A	A	A	A	0.00%
27	C	C	C	B	C	C	C	C	C	C	11.11%
28	D	C	A	D	C	D	C	C	D	D	55.56%
29	B	B	B	D	B	D	B	B	B	D	33.33%
30	A	A	A	A	A	A	A	A	A	A	0.00%
31	D	D	D	D	D	D	D	D	D	D	0.00%
32	D	D	D	D	D	D	D	D	D	D	0.00%

	Answer	Jonathan Owens	Mathew Paddock	Berley Rister	Brian Russell	Joe Pollard	Courtney Tampas	Lorne Archer	Matt Christen	Ron Clement	Miss %
33	B	B	B	B	B	D	B	B	D	B	22.22%
34	D	B	D	B	B	D	D	D	D	D	33.33%
35	C	C	C	C	B	C	C	C	C	C	11.11%
36	A	A	A	A	A	C	A	A	A	A	11.11%
37	A	A	A	A	A	A	A	A	A	A	0.00%
38	D	D	D	D	D	D	D	D	D	D	0.00%
39	B	B	B	B	B	B	B	B	B	B	0.00%
40	B	A	B	B	A	A	B	B	A	B	44.44%
41	D	D	D	D	D	D	D	D	D	D	0.00%
42	C	C	C	C	C	C	C	B	C	B	22.22%
43	B	B	B	B	B	B	B	B	B	B	0.00%
44	C	C	C	C	C	C	C	C	C	C	0.00%
45	A	A	A	A	A	A	A	A	A	A	0.00%
46	C	C	C	B	C	C	C	C	C	C	11.11%
47	C	C	C	C	C	C	C	C	C	C	0.00%
48	C	A	A	A	C	A	A	A	A	C	77.78%
49	A	A	D	C	A	C	C	A	C	A	55.56%
50	D	D	D	D	D	D	D	D	D	D	0.00%
51	D	D	D	D	D	D	D	D	D	D	0.00%
52	A	A	A	A	A	A	A	A	A	A	0.00%
53	B	C	B	C	B	B	B	B	B	B	22.22%
54	D	D	D	D	D	D	D	D	D	D	0.00%
55	C	C	C	C	C	B	C	C	C	C	11.11%
56	C	C	A	C	C	B	A	A	C	C	44.44%
57	D	D	D	D	D	D	D	D	D	D	0.00%
58	B	B	B	B	B	B	B	B	B	B	0.00%
59	C	C	C	C	C	C	C	C	C	C	0.00%
60	B	D	B	B	B	D	B	B	B	B	22.22%
61	A	A	A	B	A	A	A	A	A	A	11.11%
62	D	D	D	D	C	D	C	D	D	D	22.22%
63	D	D	D	D	D	D	D	D	D	D	0.00%
64	C	C	D	C	C	B	D	C	C	C	33.33%

	Answer	Jonathan Owens	Mathew Paddock	Berley Rister	Brian Russell	Joe Pollard	Courtney Tampas	Lorne Archer	Matt Christen	Ron Clement	Miss %
65	C	C	C	C	C	C	C	C	C	C	0.00%
66	D	D	D	D	D	C	B	D	D	D	22.22%
67	B	A	A	A	A	A	C	A	A	B	88.89%
68	A	A	A	A	A	A	A	A	A	A	0.00%
69	B	A	D	D	B	D	B	D	D	B	66.67%
70	A	B	B	B	B	B	B	B	B	B	100.00%
71	D	D	D	D	D	D	D	D	D	D	0.00%
72	C	C	C	A	A	A	A	C	A	C	55.56%
73	C	C	C	C	C	C	D	A	C	B	33.33%
74	B	B	B	B	B	B	B	B	B	B	0.00%
75	C	C	C	C	C	C	C	C	C	C	0.00%
76	A					A	B	D	A	A	40.00%
77	B					B	B	B	B	B	0.00%
78	A					B	B	A	A	A	40.00%
79	D					D	D	A	A	D	40.00%
80	D					B	C	B	B	B	100.00%
81	C					D	C	D	C	C	40.00%
82	D					D	D	D	D	D	0.00%
83	A					A	A	A	A	A	0.00%
84	B					B	B	D	D	B	40.00%
85	A					A	C	A	A	A	20.00%
86	B					B	B	B	B	B	0.00%
87	A					A	A	B	A	A	20.00%
88	C					C	C	C	C	C	0.00%
89	C					A	A	C	C	C	40.00%
90	B					B	B	B	B	B	0.00%
91	D					D	D	D	D	D	0.00%
92	D					D	D	D	D	D	0.00%
93	C					C	C	C	D	C	20.00%
94	C					B	D	B	C	B	80.00%
95	A					A	A	B	A	A	20.00%
96	C					C	C	C	C	C	0.00%

	Answer	Jonathan Owens	Mathew Paddock	Berley Rister	Brian Russell	Joe Pollard	Courtney Tampas	Lorne Archer	Matt Christen	Ron Clement	Miss %
97	B					B	B	D	B	B	20.00%
98	A					A	A	A	A	A	0.00%
99	D					C	C	C	D	D	60.00%
100	B					B	B	B	B	B	0.00%
Missed		14	13	13	14	23	15	12	11	5	
RO Score		81.33%	82.67%	82.67%	81.33%	69.33%	80.00%	84.00%	85.33%	93.33%	
SRO Missed						6	7	10	4	2	
SRO Score						76.00%	72.00%	60.00%	84.00%	92.00%	
SRO OvAll						71.00%	78.00%	78.00%	85.00%	93.00%	
RO AVG	82.22%										
SRO AVG	76.80%										
OvAVG	81.44%										

**U.S. Nuclear Regulatory Commission
Site-Specific SRO Written Examination**

Applicant Information

Name: Matthew D. Christenbury

Date: ~~August 31, 2021~~ Sep 3, 2021

Facility/Unit: Surry

Region: I ☐ II ☒ III ☐ IV ☐

Reactor Type: W ☒ CE ☐ BW ☐ GE ☐

Start Time: 0803

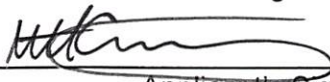
Finish Time: 1427

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. To pass the examination, you must achieve a final grade of at least 80 percent overall, with 70 percent or better on the SRO-only items if given in conjunction with the RO exam; SRO-only exams given alone require a final grade of 80 percent to pass. You have 9 hours to complete the combined examination and 3 hours if you are only taking the SRO-only portion.

Applicant Certification

All work done on this examination is my own. I have neither given nor received aid.


Applicant's Signature

Results

RO/SRO-Only/Total Examination Values ____ / ____ / ____ Points

Applicant's Score ____ / ____ / ____ Points

Applicant's Grade ____ / ____ / ____ Percent

**U.S. Nuclear Regulatory Commission
Site-Specific SRO Written Examination**

Applicant Information

Name: Joseph R. S. Pollard

Date: ~~August 31, 2021~~ *Sep. 3, 2021*

Facility/Unit: Surry

Region: I ☐ II ☒ III ☐ IV ☐

Reactor Type: W ☒ CE ☐ BW ☐ GE ☐

Start Time: *0803*

Finish Time: *1242*

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. To pass the examination, you must achieve a final grade of at least 80 percent overall, with 70 percent or better on the SRO-only items if given in conjunction with the RO exam; SRO-only exams given alone require a final grade of 80 percent to pass. You have 9 hours to complete the combined examination and 3 hours if you are only taking the SRO-only portion.

Applicant Certification

All work done on this examination is my own. I have neither given nor received aid.


Applicant's Signature

Results

RO/SRO-Only/Total Examination Values ____ / ____ / ____ Points

Applicant's Score ____ / ____ / ____ Points

Applicant's Grade ____ / ____ / ____ Percent

**U.S. Nuclear Regulatory Commission
Site-Specific SRO Written Examination**

Applicant Information

Name: Ronald J. Clement, Jr.

Date: ~~August 31, 2021~~ *Sep 3, 2021*

Facility/Unit: Surry

Region: I ☐ II ☒ III ☐ IV ☐

Reactor Type: W ☒ CE ☐ BW ☐ GE ☐

Start Time: *0803*

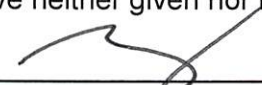
Finish Time: *1440*

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. To pass the examination, you must achieve a final grade of at least 80 percent overall, with 70 percent or better on the SRO-only items if given in conjunction with the RO exam; SRO-only exams given alone require a final grade of 80 percent to pass. You have 9 hours to complete the combined examination and 3 hours if you are only taking the SRO-only portion.

Applicant Certification

All work done on this examination is my own. I have neither given nor received aid.



Applicant's Signature

Results

RO/SRO-Only/Total Examination Values ____ / ____ / ____ Points

Applicant's Score ____ / ____ / ____ Points

Applicant's Grade ____ / ____ / ____ Percent

**U.S. Nuclear Regulatory Commission
Site-Specific SRO Written Examination**

Applicant Information

Name: Courtney A. Tampas

Date: ~~August 31, 2021~~ *Sep 3, 2021*

Facility/Unit: Surry

Region: I ☐ II ☒ III ☐ IV ☐

Reactor Type: W ☒ CE ☐ BW ☐ GE ☐

Start Time: *0803*

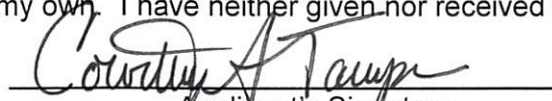
Finish Time: *1420*

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. To pass the examination, you must achieve a final grade of at least 80 percent overall, with 70 percent or better on the SRO-only items if given in conjunction with the RO exam; SRO-only exams given alone require a final grade of 80 percent to pass. You have 9 hours to complete the combined examination and 3 hours if you are only taking the SRO-only portion.

Applicant Certification

All work done on this examination is my own. I have neither given nor received aid.


Applicant's Signature

Results

RO/SRO-Only/Total Examination Values _____ / _____ / _____ Points

Applicant's Score _____ / _____ / _____ Points

Applicant's Grade _____ / _____ / _____ Percent

**U.S. Nuclear Regulatory Commission
Site-Specific SRO Written Examination**

Applicant Information

Name: Lorne W. Archer

Date: ~~August 31, 2021~~ *Sep 3, 2021*

Facility/Unit: Surry

Region: I ☐ II ☒ III ☐ IV ☐

Reactor Type: W ☒ CE ☐ BW ☐ GE ☐

Start Time: *0803*


Finish Time: *1410*

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. To pass the examination, you must achieve a final grade of at least 80 percent overall, with 70 percent or better on the SRO-only items if given in conjunction with the RO exam; SRO-only exams given alone require a final grade of 80 percent to pass. You have 9 hours to complete the combined examination and 3 hours if you are only taking the SRO-only portion.

Applicant Certification

All work done on this examination is my own. I have neither given nor received aid.



Applicant's Signature

Results

RO/SRO-Only/Total Examination Values ____ / ____ / ____ Points

Applicant's Score ____ / ____ / ____ Points

Applicant's Grade ____ / ____ / ____ Percent

**U.S. Nuclear Regulatory Commission
Site-Specific RO Written Examination**

Applicant Information

Name: Berley L. Rister III

Date: ~~August 31, 2021~~ *September 3, 2021*

Facility/Unit: Surry

Region: I ☐ II ☒ III ☐ IV ☐

Reactor Type: W ☒ CE ☐ BW ☐ GE ☐

Start Time: *0803*

Finish Time: *1240*

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. To pass the examination, you must achieve a final grade of at least 80 percent. Examination papers will be collected 6 hours after the examination begins

Applicant Certification

All work done on this examination is my own. I have neither given nor received aid.

B27

Applicant's Signature

Results

Examination Value _____ Points

Applicant's Score _____ Points

Applicant's Grade _____ Percent

**U.S. Nuclear Regulatory Commission
Site-Specific RO Written Examination**

Applicant Information

Name: Matthew G. Paddock

Date: ~~August 31, 2021~~ ^{wp} 9/3/21

Facility/Unit: Surry

Region: I ☐ II ☒ III ☐ IV ☐

Reactor Type: W ☒ CE ☐ BW ☐ GE ☐

Start Time: 12^m 0803

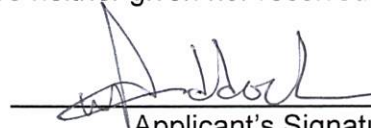
Finish Time: 1200

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. To pass the examination, you must achieve a final grade of at least 80 percent. Examination papers will be collected 6 hours after the examination begins

Applicant Certification

All work done on this examination is my own. I have neither given nor received aid.



Applicant's Signature

Results

Examination Value _____ Points

Applicant's Score _____ Points

Applicant's Grade _____ Percent

**U.S. Nuclear Regulatory Commission
Site-Specific RO Written Examination**

Applicant Information

Name: Jonathon W. Owens

Date: ~~August 31, 2021~~ *Sep. 3, 2021*

Facility/Unit: Surry

Region: I ☐ II ☒ III ☐ IV ☐

Reactor Type: W ☒ CE ☐ BW ☐ GE ☐

Start Time: *0803*

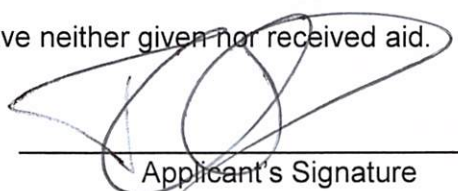
Finish Time: *1200*

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. To pass the examination, you must achieve a final grade of at least 80 percent. Examination papers will be collected 6 hours after the examination begins

Applicant Certification

All work done on this examination is my own. I have neither given nor received aid.



Applicant's Signature

Results

Examination Value _____ Points

Applicant's Score _____ Points

Applicant's Grade _____ Percent

**U.S. Nuclear Regulatory Commission
Site-Specific RO Written Examination**

Applicant Information

Name: Brian P. Russell

Date: ~~August 31, 2021~~ September 3, 2021

Facility/Unit: Surry

Region: I ☐ II ☒ III ☐ IV ☐

Reactor Type: W ☒ CE ☐ BW ☐ GE ☐

Start Time: 0803

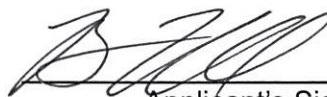
Finish Time: 1100

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. To pass the examination, you must achieve a final grade of at least 80 percent. Examination papers will be collected 6 hours after the examination begins

Applicant Certification

All work done on this examination is my own. I have neither given nor received aid.



Applicant's Signature

Results

Examination Value _____ Points

Applicant's Score _____ Points

Applicant's Grade _____ Percent

United States
Nuclear Regulatory Commission
Examination Answer Sheet[illegible]

TEST
FORM

1	0	B	C	D
2	0	B	C	D
3	A	B	C	0
4	0	B	C	D
5	A	0	C	D
6	A	0	C	D
7	A	B	0	D
8	A	0	C	D
9	0	B	C	D
10	A	B	0	D
11	0	B	C	D
12	A	B	C	0
13	A	B	C	D
14	A	B	0	D
15	A	B	C	0
16	A	B	0	D
17	A	0	C	D
18	A	0	C	D
19	0	B	C	D
20	0	B	0	D
21	A	0	B	C
22	A	B	0	C
23	A	B	C	0
24	A	B	0	C
25	A	0	B	C
26	0	B	C	D
27	A	B	0	C
28	A	B	C	0
29	A	0	C	D
30	0	B	C	D
31	A	B	C	0
32	A	B	C	D
33	A	0	C	D
34	A	B	C	0
35	A	B	0	C
36	0	B	C	D
37	0	B	C	D
38	A	B	C	0
39	A	0	C	D
40	A	0	C	D
41	A	B	C	0
42	A	B	0	C
43	A	0	C	D
44	A	B	0	C
45	0	B	C	D
46	A	B	0	C
47	A	B	C	0
48	A	B	0	C
49	0	B	C	D
50	A	B	C	0

51	A	B	C	D
52	A	B	C	D
53	A	B	C	D
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55	A	B	C	D
56	A	B	C	D
57	A	B	C	D
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59	A	B	C	D
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63	A	B	C	D
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95	A	B	C	D
96	A	B	C	D
97	A	B	C	D
98	A	B	C	D
99	A	B	C	D
100	A	B	C	D

101	A	B	C	D	111	A	B	C	D	121	A	B	C	D	131	A	B	C	D	141	A	B	C	D
102	A	B	C	D	112	A	B	C	D	122	A	B	C	D	132	A	B	C	D	142	A	B	C	D
103	A	B	C	D	113	A	B	C	D	123	A	B	C	D	133	A	B	C	D	143	A	B	C	D
104	A	B	C	D	114	A	B	C	D	124	A	B	C	D	134	A	B	C	D	144	A	B	C	D
105	A	B	C	D	115	A	B	C	D	125	A	B	C	D	135	A	B	C	D	145	A	B	C	D
106	A	B	C	D	116	A	B	C	D	126	A	B	C	D	136	A	B	C	D	146	A	B	C	D
107	A	B	C	D	117	A	B	C	D	127	A	B	C	D	137	A	B	C	D	147	A	B	C	D
108	A	B	C	D	118	A	B	C	D	128	A	B	C	D	138	A	B	C	D	148	A	B	C	D
109	A	B	C	D	119	A	B	C	D	129	A	B	C	D	139	A	B	C	D	149	A	B	C	D
110	A	B	C	D	120	A	B	C	D	130	A	B	C	D	140	A	B	C	D	150	A	B	C	D

[illegible]

SURRY - KEY

09/03/2021

DATE _____
LICENSE _____
FACILITY _____

DATE _____

United States
Nuclear Regulatory Commission
Examination Answer Sheet

FACILITY DOCKET NUMBER																				
50-280	●	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
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TEST
FORM

[illegible]

1	●	B	C	D
2	●	B	C	D
3	A	B	C	●
4	●	B	C	D
5	A	●	C	D
6	●	B	C	D
7	A	B	●	D
8	A	●	C	D
9	●	B	C	D
10	A	B	●	D
11	●	B	C	D
12	A	B	C	●
13	A	B	C	●
14	A	B	●	D
15	A	B	C	●
16	A	B	●	D
17	A	●	C	D
18	A	●	C	D
19	●	B	C	D
20	●	B	C	D
21	A	●	B	D
22	A	B	●	D
23	A	●	C	D
24	A	B	C	●
25	A	●	C	D
26	●	B	C	D
27	A	B	●	D
28	A	●	B	D
29	A	●	C	D
30	●	B	C	D
31	A	B	●	D
32	A	B	C	●
33	A	●	C	D
34	A	●	C	D
35	A	●	C	D
36	●	B	C	D
37	●	B	C	D
38	A	B	C	●
39	A	●	C	D
40	●	B	C	D
41	A	B	●	D
42	A	B	●	D
43	A	●	C	D
44	A	B	●	D
45	●	B	C	D
46	A	B	●	D
47	A	B	●	D
48	A	●	B	D
49	●	B	C	D
50	A	B	●	C

51	A	B	C	D
52	A	B	C	D
53	A	B	C	D
54	A	B	C	D
55	A	B	C	D
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57	A	B	C	D
58	A	B	C	D
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69	A	B	C	D
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73	A	B	C	D
74	A	B	C	D
75	A	B	C	D
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77	A	B	C	D
78	A	B	C	D
79	A	B	C	D
80	A	B	C	D
81	A	B	C	D
82	A	B	C	D
83	A	B	C	D
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85	A	B	C	D
86	A	B	C	D
87	A	B	C	D
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89	A	B	C	D
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92	A	B	C	D
93	A	B	C	D
94	A	B	C	D
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97	A	B	C	D
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100	A	B	C	D

101	A	B	C	D	111	A	B	C	D	121	A	B	C	D	131	A	B	C	D	141	A	B	C	D
102	A	B	C	D	112	A	B	C	D	122	A	B	C	D	132	A	B	C	D	142	A	B	C	D
103	A	B	C	D	113	A	B	C	D	123	A	B	C	D	133	A	B	C	D	143	A	B	C	D
104	A	B	C	D	114	A	B	C	D	124	A	B	C	D	134	A	B	C	D	144	A	B	C	D
105	A	B	C	D	115	A	B	C	D	125	A	B	C	D	135	A	B	C	D	145	A	B	C	D
106	A	B	C	D	116	A	B	C	D	126	A	B	C	D	136	A	B	C	D	146	A	B	C	D
107	A	B	C	D	117	A	B	C	D	127	A	B	C	D	137	A	B	C	D	147	A	B	C	D
108	A	B	C	D	118	A	B	C	D	128	A	B	C	D	138	A	B	C	D	148	A	B	C	D
109	A	B	C	D	119	A	B	C	D	129	A	B	C	D	139	A	B	C	D	149	A	B	C	D
110	A	B	C	D	120	A	B	C	D	130	A	B	C	D	140	A	B	C	D	150	A	B	C	D

DATE 9/3/21
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United States Nuclear Regulatory Commission Examination Answer Sheet

EXAMINEE DOCKET NUMBER										FACILITY DOCKET NUMBER									
5	5	-	7	5	7	1	9			5	0	-	2	8	0				
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
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2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2				
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3				
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4				
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5				
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6				
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7				
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8				
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9				

TEST FORM			
A	B	C	D

LAST NAME		FIRST NAME		M.I.		CODE
P	A	A	A	A	G	A
B	B	B	B	B		B
C	C	C	C	C		C
D	D	D	D	D		D
E	E	E	E	E		E
F	F	F	F	F		F
G	G	G	G	G		G
H	H	H	H	H		H
I	I	I	I	I		I
J	J	J	J	J		J
K	K	K	K	K		K
L	L	L	L	L		L
M	M	M	M	M		M
N	N	N	N	N		N
O	O	O	O	O		O
P	P	P	P	P		P
Q	Q	Q	Q	Q		Q
R	R	R	R	R		R
S	S	S	S	S		S
T	T	T	T	T		T
U	U	U	U	U		U
V	V	V	V	V		V
W	W	W	W	W		W
X	X	X	X	X		X
Y	Y	Y	Y	Y		Y
Z	Z	Z	Z	Z		Z

1	B	C	D	11	B	C	D	21	A	B	C	31	A	B	C	41	A	B	C
2	B	C	D	12	A	B	C	22	A	B	C	32	A	B	C	42	A	B	C
3	A	B	C	13	A	B	C	23	A	B	C	33	A	B	C	43	A	B	C
4	B	C	D	14	A	B	C	24	A	B	C	34	A	B	C	44	A	B	C
5	A	B	C	15	A	B	C	25	A	B	C	35	A	B	C	45	A	B	C
6	A	B	C	16	A	B	C	26	A	B	C	36	A	B	C	46	A	B	C
7	A	B	C	17	A	B	C	27	A	B	C	37	A	B	C	47	A	B	C
8	A	B	C	18	A	B	C	28	A	B	C	38	A	B	C	48	A	B	C
9	B	C	D	19	B	C	D	29	A	B	C	39	A	B	C	49	A	B	C
10	A	B	C	20	B	C	D	30	B	C	D	40	A	B	C	50	A	B	C

51	A	B	C	61	B	C	D	71	A	B	C	81	A	B	C	91	A	B	C
52	B	C	D	62	A	B	C	72	A	B	C	82	A	B	C	92	A	B	C
53	A	B	C	63	A	B	C	73	A	B	C	83	A	B	C	93	A	B	C
54	A	B	C	64	A	B	C	74	A	B	C	84	A	B	C	94	A	B	C
55	A	B	C	65	A	B	C	75	A	B	C	85	A	B	C	95	A	B	C
56	B	C	D	66	A	B	C	76	A	B	C	86	A	B	C	96	A	B	C
57	A	B	C	67	B	C	D	77	A	B	C	87	A	B	C	97	A	B	C
58	A	B	C	68	B	C	D	78	A	B	C	88	A	B	C	98	A	B	C
59	A	B	C	69	A	B	C	79	A	B	C	89	A	B	C	99	A	B	C
60	A	B	C	70	A	B	C	80	A	B	C	90	A	B	C	100	A	B	C

101	A	B	C	111	A	B	C	121	A	B	C	131	A	B	C	141	A	B	C
102	A	B	C	112	A	B	C	122	A	B	C	132	A	B	C	142	A	B	C
103	A	B	C	113	A	B	C	123	A	B	C	133	A	B	C	143	A	B	C
104	A	B	C	114	A	B	C	124	A	B	C	134	A	B	C	144	A	B	C
105	A	B	C	115	A	B	C	125	A	B	C	135	A	B	C	145	A	B	C
106	A	B	C	116	A	B	C	126	A	B	C	136	A	B	C	146	A	B	C
107	A	B	C	117	A	B	C	127	A	B	C	137	A	B	C	147	A	B	C
108	A	B	C	118	A	B	C	128	A	B	C	138	A	B	C	148	A	B	C
109	A	B	C	119	A	B	C	129	A	B	C	139	A	B	C	149	A	B	C
110	A	B	C	120	A	B	C	130	A	B	C	140	A	B	C	150	A	B	C

FACILITY
SURRY
LICENSE
9/3/21
DATE



United States Nuclear Regulatory Commission Examination Answer Sheet

EXAMINEE DOCKET NUMBER										FACILITY DOCKET NUMBER									
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2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2				
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3				
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4				
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5				
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6				
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7				
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8				
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9				

TEST FORM
A
B
C
D

LAST NAME		FIRST NAME		M.I.	CODE
R	i	B	e	L	A
A	A	A	A		A
B	B	B	B		B
C	C	C	C		C
D	D	D	D		D
E	E	E	E		E
F	F	F	F		F
G	G	G	G		G
H	H	H	H		H
I	I	I	I		I
J	J	J	J		J
K	K	K	K		K
L	L	L	L		L
M	M	M	M		M
N	N	N	N		N
O	O	O	O		O
P	P	P	P		P
Q	Q	Q	Q		Q
R	R	R	R		R
S	S	S	S		S
T	T	T	T		T
U	U	U	U		U
V	V	V	V		V
W	W	W	W		W
X	X	X	X		X
Y	Y	Y	Y		Y
Z	Z	Z	Z		Z

1	B	C	D	11	B	C	D	21	A	B	C	31	A	B	C	41	A	B	C
2	B	C	D	12	A	B	C	22	A	B	C	32	A	B	C	42	A	B	C
3	A	B	C	13	A	B	C	23	A	B	C	33	A	B	C	43	A	B	C
4	B	C	D	14	A	B	C	24	A	B	C	34	A	B	C	44	A	B	C
5	A	B	C	15	A	B	C	25	A	B	C	35	A	B	C	45	A	B	C
6	A	B	C	16	A	B	C	26	A	B	C	36	A	B	C	46	A	B	C
7	A	B	C	17	A	B	C	27	A	B	C	37	A	B	C	47	A	B	C
8	A	B	C	18	A	B	C	28	A	B	C	38	A	B	C	48	A	B	C
9	B	C	D	19	B	C	D	29	A	B	C	39	A	B	C	49	A	B	C
10	A	B	C	20	B	C	D	30	B	C	D	40	A	B	C	50	A	B	C

51	A	B	C	61	A	B	C	71	A	B	C	81	A	B	C	91	A	B	C
52	B	C	D	62	A	B	C	72	B	C	D	82	A	B	C	92	A	B	C
53	A	B	C	63	A	B	C	73	A	B	C	83	A	B	C	93	A	B	C
54	A	B	C	64	A	B	C	74	A	B	C	84	A	B	C	94	A	B	C
55	A	B	C	65	A	B	C	75	A	B	C	85	A	B	C	95	A	B	C
56	A	B	C	66	A	B	C	76	A	B	C	86	A	B	C	96	A	B	C
57	A	B	C	67	B	C	D	77	A	B	C	87	A	B	C	97	A	B	C
58	A	B	C	68	B	C	D	78	A	B	C	88	A	B	C	98	A	B	C
59	A	B	C	69	A	B	C	79	A	B	C	89	A	B	C	99	A	B	C
60	A	B	C	70	A	B	C	80	A	B	C	90	A	B	C	100	A	B	C

101	A	B	C	111	A	B	C	121	A	B	C	131	A	B	C	141	A	B	C
102	A	B	C	112	A	B	C	122	A	B	C	132	A	B	C	142	A	B	C
103	A	B	C	113	A	B	C	123	A	B	C	133	A	B	C	143	A	B	C
104	A	B	C	114	A	B	C	124	A	B	C	134	A	B	C	144	A	B	C
105	A	B	C	115	A	B	C	125	A	B	C	135	A	B	C	145	A	B	C
106	A	B	C	116	A	B	C	126	A	B	C	136	A	B	C	146	A	B	C
107	A	B	C	117	A	B	C	127	A	B	C	137	A	B	C	147	A	B	C
108	A	B	C	118	A	B	C	128	A	B	C	138	A	B	C	148	A	B	C
109	A	B	C	119	A	B	C	129	A	B	C	139	A	B	C	149	A	B	C
110	A	B	C	120	A	B	C	130	A	B	C	140	A	B	C	150	A	B	C

FACILITY
Surry
LICENSE
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DATE
9/3/21

United States
Nuclear Regulatory Commission
Examination Answer Sheet[illegible]

TEST
FORM

[illegible]

1	●	B	C	D	11	●	B	C	D	31	A	B	C	D	41	A	B	C	D	
2	A	B	C	●	12	A	B	C	●	32	A	B	C	●	42	A	B	●	C	D
3	A	B	C	●	13	A	●	C	D	33	A	●	C	D	43	A	●	C	D	
4	●	B	C	D	14	A	B	●	D	34	A	●	C	D	44	A	B	●	C	D
5	A	B	C	●	15	A	B	C	●	35	A	B	●	D	45	●	B	C	D	●
6	A	●	C	D	16	A	B	●	D	36	●	B	C	D	46	A	B	●	D	●
7	A	B	●	D	17	●	B	C	D	37	●	B	C	D	47	A	B	●	D	●
8	A	●	C	D	18	A	●	C	D	38	A	B	C	●	48	●	B	C	D	●
9	●	B	C	D	19	●	B	C	D	39	A	●	C	D	49	●	B	●	C	D
10	A	B	●	D	20	●	B	C	D	40	●	B	C	D	50	A	B	●	C	D

51	A	B	C	D	61	●	B	C	D	71	A	B	C	81	A	B	C	D	91	A	B	C	D		
52	●	B	C	D	62	A	●	B	C	72	A	●	B	C	82	A	●	B	C	92	A	●	B	C	D
53	A	B	●	D	63	A	B	●	C	73	A	B	●	C	83	A	B	●	C	93	A	B	●	C	D
54	A	B	C	●	64	A	B	C	D	74	A	●	C	D	84	A	●	B	C	94	A	●	B	C	D
55	A	B	●	D	65	A	●	B	C	75	A	B	●	D	85	A	●	B	C	95	A	●	B	C	D
56	A	B	C	D	66	A	B	C	●	76	A	B	C	D	86	A	●	B	C	96	A	●	B	C	D
57	A	B	C	●	67	●	B	C	D	77	A	B	C	D	87	A	●	B	C	97	A	●	B	C	D
58	A	●	C	D	68	●	B	C	D	78	A	B	C	D	88	A	●	B	C	98	A	●	B	C	D
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DATE 9/3/2021
LICENSE 20
FACILITY 5UR224

United States
Nuclear Regulatory Commission
Examination Answer Sheet

FACILITY DOCKET
NUMBER
50-280
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0 1 ● 3 4 5 6 7 8 9

TEST
FORM

CODE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
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DATE	9/3/21
LICENSE	SR0
FACILITY	SVR24

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United States Nuclear Regulatory Commission Examination Answer Sheet

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TEST FORM
A
B
C
D

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	B					M
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	B					O
	B					P
	B					Q
	B					R
	B					S
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	B					Y
	B					Z

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FACILITY SURRY
LICENSE SRO
DATE 9/3/21

United States
Nuclear Regulatory Commission
Examination Answer Sheet

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TEST
FORM

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DATE	9/3/21
LICENSE	SRO
FACILITY	SURRY

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United States
Nuclear Regulatory Commission
Examination Answer Sheet

FACILITY DOCKET NUMBER														
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TEST
FORM

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LAST NAME		A B C D E F G H I J K L M N O P Q R S T U V W X Y Z																									
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DATE	9-3-21
LICENSE	SR0
FACILITY	542RY

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84	A	B	C	D	
85	A	B	C	D	
86	A	B	C	D	
87	A	B	C	D	
88	A	B	C	D	
89	A	B	C	D	
90	A	B	C	D	
91	A	B	C	D	
92	A	B	C	D	
93	A	B	C	D	
94	A	B	C	D	
95	A	B	C	D	
96	A	B	C	D	
97	A	B	C	D	
98	A	B	C	D	
99	A	B	C	D	
100	A	B	C	D	

101	A	B	C	D	111	A	B	C	D	121	A	B	C	D	131	A	B	C	D	141	A	B	C	D
102	A	B	C	D	112	A	B	C	D	122	A	B	C	D	132	A	B	C	D	142	A	B	C	D
103	A	B	C	D	113	A	B	C	D	123	A	B	C	D	133	A	B	C	D	143	A	B	C	D
104	A	B	C	D	114	A	B	C	D	124	A	B	C	D	134	A	B	C	D	144	A	B	C	D
105	A	B	C	D	115	A	B	C	D	125	A	B	C	D	135	A	B	C	D	145	A	B	C	D
106	A	B	C	D	116	A	B	C	D	126	A	B	C	D	136	A	B	C	D	146	A	B	C	D
107	A	B	C	D	117	A	B	C	D	127	A	B	C	D	137	A	B	C	D	147	A	B	C	D
108	A	B	C	D	118	A	B	C	D	128	A	B	C	D	138	A	B	C	D	148	A	B	C	D
109	A	B	C	D	119	A	B	C	D	129	A	B	C	D	139	A	B	C	D	149	A	B	C	D
110	A	B	C	D	120	A	B	C	D	130	A	B	C	D	140	A	B	C	D	150	A	B	C	D

Enclosure 2

Master RO and SRO Written Examination and Answer Keys

Examination KEY
2021 NRC SPS SRO NRC Examination

<i>Q</i>	<i>A</i>	<i>Q</i>	<i>A</i>	<i>Q</i>	<i>A</i>	<i>Q</i>	<i>A</i>
1	A	26	A	51	D	76	A
2	A	27	C	52	A	77	B
3	D	28	D	53	B	78	A
4	A	29	B	54	D	79	D
5	B	30	A	55	C	80	D
6	B	31	D	56	C	81	C
7	C	32	D	57	D	82	D
8	B	33	B	58	B	83	A
9	A	34	D	59	C	84	B
10	C	35	C	60	B	85	A
11	A	36	A	61	A	86	B
12	D	37	A	62	D	87	A
13	B	38	D	63	D	88	C
14	C	39	B	64	C	89	C
15	D	40	B	65	C	90	B
16	C	41	D	66	D	91	D
17	B	42	C	67	B	92	D
18	B	43	B	68	A	93	C
19	A	44	C	69	B	94	C
20	A	45	A	70	A	95	A
21	C	46	C	71	D	96	C
22	C	47	C	72	C	97	B
23	D	48	C	73	C	98	A
24	C	49	A	74	B	99	D
25	D	50	D	75	C	100	B

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 1
(1 point)

Initial Conditions:

- Unit 1 was at 100%.
- The crew responded to “A” RCS Loop T_{HOT} failing low.
- All actions have been completed for 0-AP-53.00, LOSS OF VITAL INSTRUMENTATION/CONTROLS.
- I&C has placed the associated bistables for “A” Loop T_{AVE} and ΔT in TRIP.

Current Conditions (30 minutes later):

- Power Range NI N-44 failed low to 0%.
- The team is performing 1-AP-4.00, NI MALFUNCTION.

Which one of the following completes the statements below?

- 1) Based on current conditions, placing the N-44 bistables in TRIP __ (1) __ cause a reactor trip to occur.
- 2) Based on current conditions, verifying P-7 permissive status lights within one hour __ (2) __ required.

- A. 1) will not
2) is not
- B. 1) will
2) is not
- C. 1) will not
2) is
- D. 1) will
2) is

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 2
(1 point)

Initial Conditions:

The Crew has tripped Unit 1 from 100% due to a stuck open PRZR Safety Valve.

- The crew was performing the actions of 1-ES-1.2, POST LOCA COOLDOWN AND DEPRESSURIZATION.
- Both LHSI pumps have been stopped.
- Normal Charging has been re-aligned and one Charging pump has been stopped.
- All RCPs are OFF.
- The crew has performed steps to depressurize the RCS to minimize Subcooling.
- RCS subcooling was 39°F and stable.

Current Conditions (15 minutes later):

- RCS Subcooling is 25°F and trending LOWER.
- PRZR level is 65% and trending HIGHER.

Which one of the following is the required action to be taken in accordance with 1-ES-1.2?

- A. Start charging pump(s) and align HHSI flow.
- B. Start one RCP.
- C. Manually initiate SI.
- D. Turn on PRZR heaters.

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 3
(1 point)

Given the following:

- The following annunciators are alarming:
 - 1C-A2, RCP 1A THERMAL BARRIER HI FLOW.
 - 1C-A3, RCP 1A THERMAL BARRIER CC HI TEMP.
- “A” RCP Thermal Barrier CC flow is 57 gpm.
- The following Trip Valves are OPEN:
 - 1-CC-TV-120A, RCP 1A THERMAL BARRIER CC OUTLET TRIP VALVE.
 - 1-CC-TV-140A, RCP THERMAL BARRIER CC RET INSIDE TRIP VALVE.
 - 1-CC-TV-140B, RCP THERMAL BARRIER CC RET OUTSIDE TRIP VALVE.

Which ONE of the following completes both statements?

- 1) In accordance with ARPs 1C-A2 and 1C-A3, __ (1) __ is/are required to be manually closed.
- 2) Closing 1-CC-TV-120A, RCP 1A THERMAL BARRIER CC OUTLET TRIP VALVE, __ (2) __ ensure the minimum required containment isolation boundary is met.

- A. 1) 1-CC-TV-120A only
2) will
- B. 1) 1-CC-TV-120A and 1-CC-TV-140A/-140B
2) will
- C. 1) 1-CC-TV-120A only
2) will NOT
- D. 1) 1-CC-TV-120A and 1-CC-TV-140A/-140B
2) will NOT

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 4

(1 point)

Given the following:

- A Large Break LOCA has occurred on Unit 1.
- The crew has reached Step 16 in 1-E-1, LOSS OF REACTOR OR SECONDARY COOLANT, but has not performed Step 16 yet. Step 16 is CHECK IF EDGs CAN BE STOPPED.
- Annunciator 1A-A7, RWST LO LVL has just alarmed.
- RWST level is 19.0% and lowering.

Based on the given conditions, which ONE of the following answers the questions below?

- 1) Which action is required to be performed FIRST?
 - 2) As RWST level continues to lower to the RMT actuation level, what is the minimum number of channels for RMT to actuate?
-
- A.
 - 1) Place SI in Cold Leg Recirculation.
 - 2) Two (2).
 - B.
 - 1) Place SI in Cold Leg Recirculation.
 - 2) Three (3).
 - C.
 - 1) Check if EDGs can be stopped.
 - 2) Three (3).
 - D.
 - 1) Check if EDGs can be stopped.
 - 2) Two (2).

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 5

(1 point)

Given the following:

- Unit 1 is at 100% power.
- The Unit 1 RO has just observed the following:
 - Annunciators 1C-D3/-E3/-F3, RCP 1A/1B/1C SEAL WTR LO INJ FLOW, are all alarming.
 - All Seal Injection flows indicate 2 gpm each.
 - Charging flow has lowered from 88 gpm to 63 gpm.
 - Charging Pump discharge pressure lowered to 2315 psig.

Which ONE of the following completes the statement below?

- 1) The abnormal Seal Injection flows are due to a __ (1) __.
- 2) In accordance with 1-AP-8.00, LOSS OF NORMAL CHARGING FLOW, a manual Reactor Trip __ (2) __ required.

- A. 1) clogged Seal Injection filter
 2) is not
- B. 1) Seal Injection piping break
 2) is not
- C. 1) clogged Seal Injection filter
 2) is
- D. 1) Seal Injection piping break
 2) is

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 6
(1 point)

Given the following:

- Unit 1 in CSD and making preps for refueling.
- A large Earthquake occurs.
- The RHR system was heavily damaged and is unable to provide cooling.
- The crew is performing actions per 1-AP-27.00, Loss of Decay Heat Removal, and has been directed to establish Forced Feed Cooling per Attachment 6.

Which ONE of the following completes both statements in accordance with 1-AP-27.00, LOSS OF DECAY HEAT REMOVAL, Attachment 6, Forced Feed Cooling.

- 1) The __ (1) __ leg is the preferred injection path.
- 2) LHSI Pump flow is required to be limited to less than __ (2) __ gpm.

- | | | |
|----|---------|---------|
| A. | 1) hot | 2) 3000 |
| B. | 1) cold | 2) 3000 |
| C. | 1) cold | 2) 440 |
| D. | 1) hot | 2) 440 |

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 7
(1 point)

Given the following:

- Unit 2 is at 100% power.
- The following Unit 2 annunciators are LIT:
 - 2C-F8, PRZR HI PRESS.
 - 2D-H4, PRZR SFTY VV PWR RELIEF VV OPEN.
- Pressurizer Pressure Control Instrumentation Channels indicate as follows:
 - 2-RC-PI-2444 is 2210 psig and lowering.
 - 2-RC-PI-2445 is 2500 psig and stable.
- Per immediate action steps, the RO takes the control switch for the affected Pressurizer PORV to CLOSE.
- The affected PORV position indicator lights now show GREEN.
- Pressurizer Pressure is now 2185 psig and slowly lowering at 5 psig/minute.

Which ONE of the following completes both statements?

- 1) In accordance with 0-AP-53.00, LOSS OF VITAL INSTRUMENTATION/CONTROLS, the next required action that will stabilize RCS pressure is to close the associated __ (1) __.
 - 2) For the inoperable PORV, Tech Spec 3.1.A.6, RCS – RELIEF VALVES, __ (2) __ de-energizing the associated Block MOV.
-
- A. 1) Spray Valve Remote Close SOVs
2) does NOT require
 - B. 1) Spray Valve Remote Close SOVs
2) requires
 - C. 1) Block MOV
2) does NOT require
 - D. 1) Block MOV
2) requires

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 8
(1 point)

Initial Conditions:

- Unit 1 was operating at 100% when the turbine tripped on low lube oil pressure.
- The Reactor failed to trip automatically or manually.
- The Crew entered 1-FR-S.1, RESPONSE TO NUCLEAR GENERATION ATWS.
- Both Reactor Trip breakers were still closed.

Current Conditions (5 minutes later):

- The Service Building inside watch is dispatched to locally open the Reactor Trip breakers.
- Safety Injection is not in service.
- Emergency Boration is in progress.

Which ONE of the following completes the following?

- 1) The Unit 1 Reactor Trip breakers are located in the Unit 1 __ (1) __.
- 2) Per 1-FR-S.1, the crew must remain in 1-FR-S.1 until __ (2) __.

- A.
 - 1) Normal Switchgear Room
 - 2) Emergency boration is complete
- B.
 - 1) Cable Tray Room
 - 2) PRNI is < 5% and IRNI have negative startup rate
- C.
 - 1) Cable Tray Room
 - 2) Emergency boration is complete
- D.
 - 1) Normal Switchgear Room
 - 2) PRNI is < 5% and IRNI have negative startup rate

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 9
(1 point)

Initial Conditions:

- A Unit 1 “A” Steam Generator Tube Rupture (SGTR) occurred.
- The “B” and “C” Reactor Coolant Pumps tripped on Station Service Bus swapover.
- The “A” RCP remains in operation.
- The team has completed RCS cooldown and depressurization per 1-E-3, STEAM GENERATOR TUBE RUPTURE.
- The team is performing 1-ES-3.3, POST-SGTR COOLDOWN USING STEAM DUMP.
- RCS has been cooled down to 350°F per 1-ES-3.3.
- RCS pressure is 720 psig and stable.
- The Unit 1 team is attempting to lower “A” S/G pressure by 100 psig, using the MSTV bypass valve.
- With “A” S/G lowered to 620 psig, RCS leakrate is 100 gpm.

Current Conditions:

- The “A” S/G Pressure was inadvertently lowered to 420 psig, instead of 620 psig, and is continuing to lower due to difficulty reclosing the MSTV bypass valve.

Which ONE of the following completes both statements?

- 1) With the “A” S/G pressure at 420 psig the primary-to-secondary leak rate through the ruptured U-tubes is (1) .
 - 2) If the “A” MSTV bypass cannot be closed, the first consequence that requires operator action will be (2) .
-
- A. 1) 173 gpm
2) pressure below minimum for continued RCP operation
 - B. 1) 173 gpm
2) pressure drop causing vessel head void formation
 - C. 1) 141 gpm
2) pressure below minimum for continued RCP operation
 - D. 1) 141 gpm
2) pressure drop causing vessel head void formation

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2021 NRC SPS RO NRC Examination

Question: 10

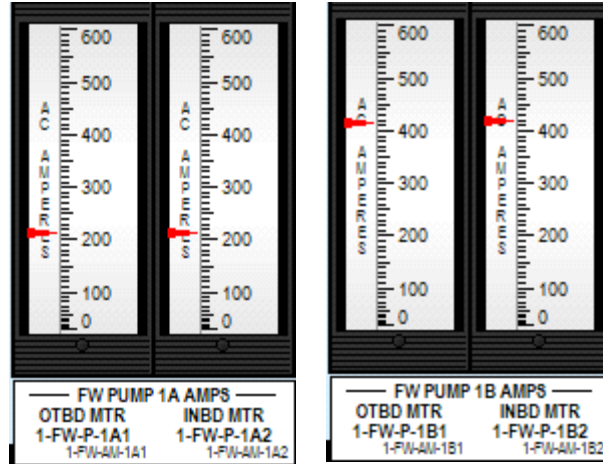
(1 point)

Given the following:

- Unit 1 is operating at 75% when the following Feed pump indications were noted.

One minute later...

- Annunciators 1H-G5/6/7, STM GEN 1A/1B/1C LVL ERROR are lit.
- SG NR Lvl 32% and lowering in all SGs.
- MFRV demand rising on all MFRVs.



Which ONE of the following, completes the statements below?

- Per 1-AP-21.00, LOSS OF MAIN FEEDWATER FLOW, a condensate pump __ (1) __ required to be started prior to lowering turbine load.
 - The reason for lowering turbine load is to __ (2) __.
- 1) is NOT
2) stabilize Main feed pump amps below 420 amps
 - 1) is
2) stabilize Main feed pump amps below 420 amps
 - 1) is
2) match feed flow with steam flow to stabilize SG level
 - 1) is NOT
2) match feed flow with steam flow to stabilize SG level

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 11

(1 point)

Given the following:

- A loss of all AC Emergency Power occurred on Unit 1.
- The team is performing 1-ECA-0.0, LOSS OF ALL AC POWER.
- The RO is trending DC Bus voltages on the Plant Computer (PCS).

Given the current DC voltages and trends on the attached PCS display, which ONE of the following completes both statements in accordance with 1-ECA-0.0?

- 1) The soonest time that a complete loss of a DC Bus is expected is __ (1) __.
- 2) Declaration of an Extended Loss of AC Power (ELAP) __ (2) __ required.

REFERENCE PROVIDED

- A.
 - 1) 20-30 minutes
 - 2) is
- B.
 - 1) 1 hour
 - 2) is
- C.
 - 1) 20-30 minutes
 - 2) is not
- D.
 - 1) 1 hour
 - 2) is not

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 12

(1 point)

Given the following:

- Unit 1 was operating at 100% power.
- Multiple annunciators have alarmed including the following:
 - 1F-F1/2/3: STM GEN 1A/1B/1C CH 3 HI STM LINE FLOW.
 - 1E-E6: RX TRIP CH 3 OT Δ T LOOP 1C.
 - 1E-E7: RX TRIP CH 3 OP Δ T LOOP 1C.
 - 1C-A1: RCP 1A CC RETURN LO FLOW.
 - 1C-F3: RCP 1C SHAFT SEAL WTR LO INJ FLOW

Based on the conditions given, which ONE of the following correctly completes the statements below?

- 1) A loss of Vital Bus __ (1) __ has occurred.
- 2) The abnormal procedure for this Vital Bus __ (2) __ a step to trip the reactor.

- A. 1) 3
2) does NOT include
- B. 1) 4
2) includes
- C. 1) 4
2) does NOT include
- D. 1) 3
2) includes

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 13
(1 point)

Initial Conditions:

- Unit 1 was operating at 100% when a loss of the 1H Emergency Bus occurred.
- The team is performing the following procedures:
 - 1-AP-10.07, LOSS OF UNIT 1 POWER.
 - 0-AP-17.04, EDG 1 OR EDG 2 – EMERGENCY OPERATIONS.
- EDG #1 is running at 900 RPM.
- Per 1-AP-10.07 Attachment 1, EDG FAILURE CONTINGENCY ACTIONS, the control switch for 15H3 was placed in Start (Red flag).
- The breaker status lights for 15H3, EMERG SUP, are all NOT lit.
- EMERG BUS 1H VOLTS indicates 0 volts.

Current Conditions:

- EDG #1 is still running with its AUTO/EXERCISE EMERG GEN 1 switch in AUTO.
- The team is at 0-AP-17.04 step 16, checking the DC Power fuses at breaker 15H3.
- Breaker 15H3 is locally verified OPEN.
- The amber light on the Diesel Isolation Panel in the ESGR is NOT LIT.

Based on current conditions, which ONE of the following correctly completes the statements below?

- 1) 0-AP-17.04 directs placing Breaker 15H3 in __ (1) __ prior to replacing the DC fuses.
- 2) After the 15H3 fuses are replaced, the Auxiliary Trip Relay __ (2) __ need to be manually reset.

- A. 1) Stop (Green flag)
2) will
- B. 1) Pull To Lock
2) will not
- C. 1) Stop (Green flag)
2) will not
- D. 1) Pull To Lock
2) will

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 14
(1 point)

Initial Conditions:

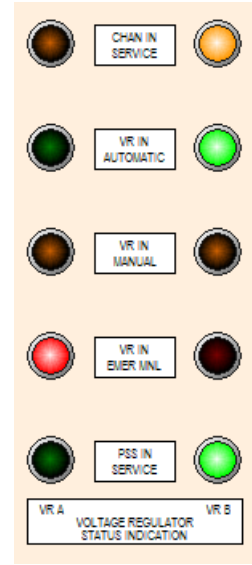
- Unit 1 and Unit 2 are operating at 100%.
- Unit 1 Gen H2 pressure is at 60 psig, and stable.
- The plant has been notified by SOC that there are significant grid instabilities.
- The SOC has requested maximum power generation from both units.
- The Operator observes rising MVARs, and is attempting to lower MVARs.

Current Conditions:

- The following Annunciators are alarming:
 - 1J-A8, OVER EXCITATION LIMIT.
 - 1J-B7, VREG CHANNEL A LOCAL.
- The BOP reports the following Unit 1 changes:
 - Gen MWe lowered from 905 to 900 MWe.
 - Gen MVARs rose from + 10 to +350 MVARs.
 - Voltage Regulators have shifted and are as shown.

Which ONE of the following completes the statements below?

- 1) Based on the information given in the current conditions, the Main Generator limits __(1)__ being exceeded.
- 2) Per ARP 1J-A8, OVER EXCITATION LIMIT the operator should attempt to regain control of Generator Voltage using the __(2)__.



REFERENCE PROVIDED

- A.
 - 1) are
 - 2) Local RAISE/LOWER pushbuttons
- B.
 - 1) are NOT
 - 2) MCR Excitation Level Raise/Lower Switch
- C.
 - 1) are
 - 2) MCR Excitation Level Raise/Lower Switch
- D.
 - 1) are NOT
 - 2) Local RAISE/LOWER pushbuttons

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 15

(1 point)

Given the following:

- Unit 2 RCS pressure is 990 psig and lowering.
- The team has transitioned to 2-ECA-1.2, LOCA Outside Containment.
- The team is ready to begin attempts to Identify and Isolate the break.

Which of the following answers the questions below?

- 1) What is the first flow path the crew will attempt to isolate per 2-ECA-1.2, step 2?
 - 2) In accordance with 2-ECA-1.2, what parameter is checked to determine if the break is isolated?
-
- A. 1) Low Head Safety Injection.
2) Pressurizer level rising.
 - B. 1) Charging Line.
2) Pressurizer level rising.
 - C. 1) Charging Line.
2) RCS pressure rising.
 - D. 1) Low Head Safety Injection.
2) RCS pressure rising.

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 16

(1 point)

The crew is performing FR-H.1, LOSS OF HEAT SINK, and is attempting to establish feed flow from the condensate system. Safety Injection has initiated.

Per 1-FR-H.1 Which ONE of the following completes the statements below regarding the actions the crew must take in order to use this method?

- 1) In order to close a Feed pump breaker in test, the crew must **first** (1) .
 - 2) The crew will dump steam to the condenser at maximum rate to depressurize (2) .
-
- A.
 - 1) reset the FW isolation signal, followed by the Safety Injection signal
 - 2) one intact SG to less than 550 psig
 - B.
 - 1) reset the FW isolation signal, followed by the Safety Injection signal
 - 2) all intact SGs to less than 300 psig
 - C.
 - 1) reset the Safety Injection signal, followed by the FW isolation signal.
 - 2) one intact SG to less than 550 psig
 - D.
 - 1) reset the Safety Injection signal, followed by the FW isolation signal.
 - 2) all intact SGs to less than 300 psig

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 17
(1 point)

Given the following:

- Unit 2 experienced a LOCA from 100% power.
- The following Spray pumps are running:
 - 2-CS-P-1A, A Containment spray pump.
 - 2-CS-P-1B, B Containment spray pump.
 - 2-RS-P-1A, A Inside Recirc spray pump.
 - 2-RS-P-2A, A Outside Recirc spray pump.
- The team is performing 2-ECA-1.1, LOSS OF EMERGENCY COOLANT RECIRCULATION.
- Per 2-ECA-1.1, one CS pump must be secured.
- Containment pressure is 25 psia and lowering.
- Containment sump level is 5.2 feet and rising.

Which one of the following completes both statements, in accordance with 2-ECA-1.1?

- 1) The CS pump will be secured __ (1) __.
 - 2) If 2-CS-P-1A is secured, then securing 2-RS-P-2A __ (2) __ required.
-
- A. 1) locally at the breaker
2) is
 - B. 1) locally at the breaker
2) is not
 - C. 1) when the CLS RESET PERMISSIVE annunciators are LIT
2) is
 - D. 1) when the CLS RESET PERMISSIVE annunciators are LIT
2) is not

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 18
(1 point)

Initial Conditions:

- Both units were operating at 100% power.
- A transient occurs causing Unit 2 SGs to become faulted inside containment.

Current Conditions (15 minutes):

- The team is currently in 2-ECA-2.1, UNCONTROLLED DEPRESSURIZATION OF ALL STEAM GENERATORS.
- The RO reports the following:
 - RCS cooldown rate is 105°F/hr.
 - All S/G NR levels are 5% and stable.
 - AFW flow is 200 gpm to each S/G.
 - Containment pressure is 20.5 psia and rising.
 - RCS pressure is 1908 psig and lowering.

Which of the following choices identifies the required actions, if any, in accordance with 2-ECA-2.1?

- A. Throttle AFW flow to each S/G to a minimum of 60 gpm.
- B. Throttle AFW flow to each S/G to a minimum of 100 gpm.
- C. Throttle TOTAL AFW to \leq 350 gpm.
- D. No action for AFW flow is required at this time.

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 19

(1 point)

Initial Conditions:

- Unit 1 was at 100% power.
- Control Rod C-7 (Shutdown Bank A) partially dropped to 110 steps.

Current Conditions (50 minutes later):

- The team is stabilizing power after required load reduction per Tech Spec 3.12.C, CONTROL ROD ASSEMBLIES.
- Indicated power levels are as follows:
 - PRNI N-41 = 75.5%.
 - PRNI N-42 = 70.5%.
 - PRNI N-43 = 65.0%.
 - PRNI N-44 = 77.2%.
 - A/B/C loop ΔT = 74%.

Which ONE of the following completes the statements below?

- 1) Based on current conditions, power level __ (1) __ satisfy the LCO requirement.
 - 2) If the partially dropped Control Rod (C-7) subsequently dropped fully (0 steps), a manual reactor trip __ (2) __ required.
- A. 1) does
2) will NOT be
- B. 1) does
2) will be
- C. 1) does not
2) will be
- D. 1) does not
2) will NOT be

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 20

(1 point)

Given the following:

- Unit 1 is at 100% power, steady state.
- PRZR LVL CH SEL switch selected to Position 3 (CH3 / CH2).
- The operator observes a prompt rise of 1-RC-LI-1461, PRZR PROT LEVEL CH 3, indication to 63%.
- The operator announces the failure and enters 0-AP-53.00, LOSS OF VITAL INSTRUMENTATION/CONTROLS.

Which ONE of the following answers the questions below.

- 1) Based on the conditions given, how will the DEMAND (Output) SIGNAL for PRZR Level controller, 1-CH-LC-1459G, and CHG Flow controller, 1-CH-FC-1122C respond?
 - 2) Per 0-AP-53.00, which PRZR level controller will need to be Unsaturated?
- A. 1) 1-CH-LC-1459G will LOWER, and 1-CH-FC-1122C will RISE.
2) 1-CH-LC-1459G.
- B. 1) 1-CH-LC-1459G will RISE, and 1-CH-FC-1122C will LOWER.
2) 1-CH-FC-1122C.
- C. 1) 1-CH-LC-1459G will LOWER, and 1-CH-FC-1122C will RISE.
2) 1-CH-FC-1122C.
- D. 1) 1-CH-LC-1459G will RISE, and 1-CH-FC-1122C will LOWER.
2) 1-CH-LC-1459G.

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 21

(1 point)

Given the following:

- Unit 2 is in Refueling Shutdown with core on-load in progress.
- Reactor power is 222 cps as indicated on the Audio SR Count Drawer.
- The following alarms and indications occur:
 - 2G-A3, NIS SOURCE RNG LOSS OF DET VOLT, is LIT.
 - Audio SR Count Drawer indication is 0 cps.
 - N-31 benchboard indication is off-scale low.
 - N-32 benchboard indication is approximately 200 cps.
- Audible count rate in Unit 2 Containment has been lost.
- The team has entered 1-AP-4.00, NUCLEAR INSTRUMENTATION MALFUNCTION.

Which ONE of the following completes both statements?

- 1) 1-AP-4.00 __ (1) __ contain steps for the operator to restore the audible count rate in containment without I&C support.
 - 2) IF the audible count rate in containment is subsequently restored using N-32, THEN refueling operations __ (2) __.
-
- A. 1) does NOT
2) may continue
 - B. 1) does NOT
2) are still NOT allowed
 - C. 1) does
2) are still NOT allowed
 - D. 1) does
2) may continue

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 22
(1 point)

The following sequence of events occurred on Unit 1:

- Time = 1400, Reactor startup in progress with Source Range at 5×10^3 cps, and stable.
- Time = 1401, IR N-35 has failed. Reactor Operator reports N-35 reading 1×10^{-8} amps. IR N-36 reads 1×10^{-11} amps.
- Time = 1402, The Startup is suspended.
- The team has entered 1-AP-4.00, NUCLEAR INSTRUMENTATION MALFUNCTION.

Based on the given sequence of events, which ONE of the following completes the statements below?

- 1) In accordance with 1-AP-4.00, Attachment 2, IR Failure, the minimum action that needs to be done in order to continue with the startup is to __ (1) __.
 - 2) At 1402 the Source Range instruments are __ (2) __.
-
- A.
 - 1) restore N-35 to operable status
 - 2) de-energized
 - B.
 - 1) place N-35 LEVEL TRIP switch in BYPASS
 - 2) energized
 - C.
 - 1) restore N-35 to operable status
 - 2) energized
 - D.
 - 1) place N-35 LEVEL TRIP switch in BYPASS
 - 2) de-energized

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 23

(1 point)

Given the following:

- Both units are at 100% power.
- Annunciator 1-RMA-D6, VENT STACK #2 PART ALERT/HI, is alarming.
- The High LED indicator is lit for 1-VG-RI-131B, VENT #2 NORMAL GAS INDICATOR.
- The team is performing 0-AP-5.20, RADIATION MONITOR SYSTEM VENTILATION VENT HIGH ALARM.

Which ONE of the following completes the questions below?

- 1) In accordance with 0-AP-5.20, what action will the team direct to identify the leak location?
- 2) If the inlet flange of 1-GW-RV-111A, SAMPLE COMPRESSOR 1-GW-C-4A SUCTION RELIEF VALVE, is subsequently identified as the leak location, where must the team send a field operator to isolate the leak?

REFERENCE PROVIDED

- A.
 - 1) Have HP sample the area for Iodine and Particulates.
 - 2) Fuel Building.
- B.
 - 1) Align the affected area to Filtered Exhaust.
 - 2) Fuel Building.
- C.
 - 1) Have HP sample the area for Iodine and Particulates.
 - 2) PG Pump House.
- D.
 - 1) Align the affected area to Filtered Exhaust.
 - 2) PG Pump House.

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 24
(1 point)

A Fuel Shuffle is being performed in the Spent Fuel pool, and a Fuel Assembly has just been seated. The following annunciators alarmed and were determined to be valid, i.e., not an instrument failure:

- 0-RM-C3, FUEL PIT BRDG ALERT/FAILURE.
- 0-RM-D3, 1-RM-RI-153 HIGH.

Spent fuel pool is stable/normal and no other abnormalities were observed or noted.

Which ONE of the following correctly completes both statements?

- 1) In accordance with 0-RM-C3 and D-3, the Fuel Building __ (1) __ required to be immediately evacuated.
 - 2) The Fuel Pit Bridge radiation detector is a/an __ (2) __.
-
- A. 1) is NOT
2) ion chamber
 - B. 1) is NOT
2) geiger mueller
 - C. 1) is
2) ion chamber
 - D. 1) is
2) geiger mueller

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 25

(1 point)

Given the following:

- An operator reports a fire at the Unit 1 “A” Main Transformer.
- The team is entering 0-AP-48.00, Fire Protection – Operations Response.

Which ONE of the following answers both questions?

- 1) What is the correct summary of the Immediate Actions per 0-AP-48.00?
 - 2) How is Unit 1 “A” Main Transformer deluge actuated?
- A. 1) Alarm, announce, alarm, announce.
 2) Manually from the MCR.
 - B. 1) Alarm, announce, announce, alarm, announce.
 2) Manually from the MCR.
 - C. 1) Alarm, announce, alarm, announce.
 2) Automatically.
 - D. 1) Alarm, announce, announce, alarm, announce.
 2) Automatically.

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 26

(1 point)

Unit 1 is shutting down from 100% power per 1-GOP-2.1, UNIT SHUTDOWN POWER DECREASE FROM ALLOWABLE POWER TO < 30% POWER.

Which ONE of the following completes the statements below?

- 1) The earliest time that Chemistry is required to be notified to sample the RCS for Dose Equivalent I-131 is when power is lowered to __ (1) __.
 - 2) Per Tech Spec 3.1.D, RCS Specific Activity, the primary coolant shall be limited to \leq __ (2) __ Dose Equivalent I-131.
-
- A.
 - 1) 85%
 - 2) 1.0 $\mu\text{Ci/gm}$
 - B.
 - 1) 70%
 - 2) 0.5 $\mu\text{Ci/gm}$
 - C.
 - 1) 70%
 - 2) 1.0 $\mu\text{Ci/gm}$
 - D.
 - 1) 85%
 - 2) 0.5 $\mu\text{Ci/gm}$

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 27
(1 point)

Initial Conditions:

- Unit 1 experienced a Loss of Offsite Power from 100% due to a tornado damaging the 34.5KV Buses and the Unit 1 Generator output breakers.

Current Conditions: (1 hour later)

- The team is performing 1-ES-0.2, NATURAL CIRCULATION COOLDOWN.
- Letdown is in service.
- A controlled RCS Cooldown has been commenced.
- Hi Steam Flow Safety Injection has been BLOCKED.
- The team is preparing to depressurize the RCS to 1950 psig.

Which ONE of the following completes the statement below in accordance with 1-ES-0.2?

Depressurization to 1950 psig will be performed using __ (1) __, and the remainder of the cooldown to CSD will be at a rate below a maximum of __ (2) __.

- A. 1) Auxiliary Spray
2) 25°F/hr
- B. 1) One Pressurizer PORV
2) 10°F/hr
- C. 1) Auxiliary Spray
2) 10°F/hr
- D. 1) One Pressurizer PORV
2) 25°F/hr

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 28
(1 point)

Initial Conditions:

- Unit 1 Reactor startup was in progress following a Forced outage for RCP Corrective maintenance.
- Power was at 1×10^{-8} amps and holding for Critical Rod data.
- The crew has entered 1-AP-9.00, RCP ABNORMAL CONDITIONS, due to rising temp. and vibration trends, and has suspended any further power increase.

Current Conditions (10 minutes):

- The RO has plotted the most limiting 1-RC-P-1A parameters over the last 10 minutes and are as follows:

Parameter	Initial Reading	Current Reading (10 min)
Lower Thrust bearing	110 °F	145 °F
RCP Shaft vibration	9 mils	15.5 mils

Which ONE of the following completes the statements below?

- 1) Based on these trends, and assuming the trends continue at the same rate, the first parameter that will require the pump to be shutdown is the __ (1) __.
 - 2) In accordance with the annunciator procedures and 1-AP-9.00, at this power level, a manual reactor trip __ (2) __ required before the RCP is shutdown.
- A. 1) Lower Thrust bearing
2) is
- B. 1) Lower Thrust bearing
2) is NOT
- C. 1) RCP Shaft vibration
2) is NOT
- D. 1) RCP Shaft vibration
2) is

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 29

(1 point)

Given the following:

- Unit 1 tripped from 80% power, due to an overcurrent trip of "B" RCP.
- The Unit is stabilizing at HSD and the team is in 1-ES-0.1, REACTOR TRIP RESPONSE.
- The team is at Step 1, Check RCS Temperature Control, with the following indications:
 - "A" Loop Tave = 547.8°F.
 - "B" Loop Tave = 536.6°F.
 - "C" Loop Tave = 546.9°F.

Based on the above conditions, which ONE of the following completes the statements below?

- 1) Steam dumps __(1)__ be throttled open.
 - 2) At ES-0.1, Step 1, Steam Dump Control will be in the __(2)__ mode.
-
- A.
 - 1) will not
 - 2) Steam Pressure
 - B.
 - 1) will
 - 2) T_{AVE}
 - C.
 - 1) will
 - 2) Steam Pressure
 - D.
 - 1) will not
 - 2) T_{AVE}

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 30

(1 point)

Unit 1 was operating at 100% operation when a failure occurred causing Letdown temperature to rise.

Which of the following completes the statement below?

Once Letdown temperature reaches a setpoint of __(1)__ the Letdown divert valve, 1-CH-TCV-1143 will automatically divert to the __(2)__.

- A. 1) 145 °F
2) Volume Control Tank
- B. 1) 145 °F
2) Primary Drains Tank
- C. 1) 130 °F
2) Volume Control Tank
- D. 1) 130 °F
2) Primary Drains Tank

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 31
(1 point)

Initial Conditions:

- Unit 1 is at Cold Shutdown (CSD) in Mid-Loop operations.
- “A” RHR Pump is in service.

The following sequence of events occurred:

- Annunciator 1B-A3, CTMT SUMP HI LVL, is locked in.
- The STA reports RCS Level is now in the UNACCEPTABLE region, based on RCS Standpipe level indication.
- “A” RHR Pump amps are stable.

Which ONE of the following completes the following statement?

Based on the current conditions, the team will enter __ (1) __, which __ (2) __ require securing the RHR pump.

- A. 1) 1-AP-16.01, SHUTDOWN LOCA
2) will NOT
- B. 1) 1-AP-27.00, LOSS OF DECAY HEAT REMOVAL CAPABILITY
2) will
- C. 1) 1-AP-16.01, SHUTDOWN LOCA
2) will
- D. 1) 1-AP-27.00, LOSS OF DECAY HEAT REMOVAL CAPABILITY
2) will NOT

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2021 NRC SPS RO NRC Examination

Question: 32

(1 point)

ECA-0.0, LOSS OF ALL AC POWER, Step 24, directs the operator to:

“Depressurize all Intact SGs to 300 psig”

Which ONE of the following describes the reason for stopping the pressure reduction at 300 psig?

- A. Prevent losing pressurizer level.
- B. Prevent damage to RCP seal package.
- C. Prevent voiding in the Reactor Vessel upper head.
- D. Prevent SI Accumulator Nitrogen injection to the RCS.

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Question: 33

(1 point)

The following sequence of events have just occurred:

- Unit 1 was stable at 100% power.
- Pressurizer Pressure is 2210 psig and lowering.
- The RO reports the following:
 - 1C-E7, PRZR RELIEF TK HI TEMP, has just come in.
 - 1C-F7, PRZR RELIEF TK HI PRESS, has just come in.
 - PRT Level is 81% and slowly rising.
 - There is indication of Pressurizer PORV leakby.

Which ONE of the following completes both statements?

- 1) The temperature of the fluid entering the PRT is expected to be __(1)__.
 - 2) In accordance with 1-OP-RC-011, PRESSURIZER RELIEF TANK OPERATIONS, the team will drain the PRT to the __(2)__.
-
- A. 1) 193°F
 - 2) Primary Drains Tank
 - B. 1) 228°F
 - 2) Primary Drains Transfer Tank
 - C. 1) 228°F
 - 2) Primary Drains Tank
 - D. 1) 193°F
 - 2) Primary Drains Transfer Tank

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2021 NRC SPS RO NRC Examination

Question: 34

(1 point)

Given the following:

- Both Units are operating at 100%.
- 1-AP-15.00, LOSS OF COMPONENT COOLING, has just been entered.

Which ONE of the following completes both statements?

- 1) An immediate manual reactor trip __ (1) __ required.
- 2) When implementing 1-AP-15.00, __ (2) __ will be performed first.

- A. 1) is NOT
2) Establish Alternate Letdown
- B. 1) is NOT
2) Crosstie Containment IA to Turbine Building IA
- C. 1) is
2) Establish Alternate Letdown
- D. 1) is
2) Crosstie Containment IA to Turbine Building IA

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2021 NRC SPS RO NRC Examination

Question: 35
(1 point)

Initial Conditions:

- Unit 1 experienced a spurious Safety Injection from 100% power.
- The team has terminated SI in accordance with in 1-ES-1.1, SI Termination.

Current Conditions:

- The team is in 1-GOP-1.1 and preparing to draw a bubble in the Pressurizer.
- The following indications exist for the Pressurizer:
 - All PRZR LEVEL PROTECT channels are 100%.
 - PRZR Temperatures is 633°F.
 - The Pressurizer has been filled solid, and pressure is at 2270 psig and stable.
- Pressurizer heater switches are as follows:
 - "B" and "C" Banks are ON (energized).
 - "A", "D", and "E" banks are in AUTO (de-energized).

Which ONE of the following answers both questions?

- 1) Based on Current Conditions, what is the correct action to take with the Pressurizer Heaters?
- 2) If the team lowers Charging flow below Letdown flow, how will Pressurizer pressure respond?

- A.
 - 1) Place "B" and "C" Banks in AUTO
 - 2) Pressure will not change.
- B.
 - 1) Place "B" and "C" Banks in AUTO
 - 2) Pressure will lower.
- C.
 - 1) Place "A", "D" and "E" Banks in ON
 - 2) Pressure will lower.
- D.
 - 1) Place "A", "D" and "E" Banks in ON
 - 2) Pressure will not change.

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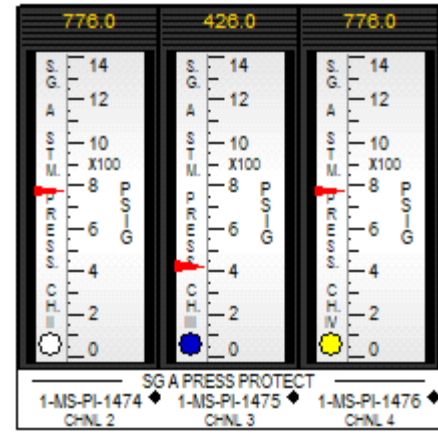
2021 NRC SPS RO NRC Examination

Question: 36

(1 point)

Initial Conditions:

- Unit 1 is operating at 100%.
- All Steam Flow and Feed Flow instruments are set to BLUE.
- Steam pressure channel 1-MS-PI-1475 Fails as indicated.
- All required actions of 0-AP-53.00, LOSS OF VITAL INSTRUMENTATION/CONTROLS, have been taken.



Assuming no operator actions which ONE of the following completes the statements below?

- 1) Per 0-AP-53.00, the __ (1) __ channel was selected as controlling channel for Steam Flow.
 - 2) If an I&C technician subsequently inadvertently de-energizes 1-MS-PI-1474 the reactor __ (2) __ immediately trip.
- A. 1) yellow
2) will
 - B. 1) white
2) will NOT
 - C. 1) yellow
2) will NOT
 - D. 1) white
2) will

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2021 NRC SPS RO NRC Examination

Question: 37
(1 point)

Initial Conditions:

- Unit 1 tripped from 100% due to a loss of “A” DC Bus.
- The 1A and 1-1 DC breaker panel loads have been stripped.

Current Conditions:

- The cause for the loss of the Unit 1 “A” DC Bus has been corrected.
- The DC Bus is now being energized from the Battery Chargers.

Which ONE of the following identifies the reason that 1-AP-10.06, LOSS OF DC POWER, requires using Attachment 5, SUGGESTED SEQUENCE OF LOADING DC BUSES 1A AND 1-1, to restore power?

- A. To prevent actuation of safety injection.
- B. To prevent overloading the Battery Chargers.
- C. To prioritize restoration of letdown.
- D. To prioritize Pressurizer PORV-1455C restoration.

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Question: 38

(1 point)

Given the following:

- Unit 1 is at 100% power operation.
- The following indications occur simultaneously:
 - Annunciator 1K-E4, 480V BKR AUTO TRIP alarms.
 - The RO reports that green and amber lights for CARF 1-VS-F-1B is Lit, and CARF 1-VS-F-1A, and 1-VS-F-1C remain operating.
- The crew enters 1-AP-25.00, Loss of Containment Air cooling.

Based on these indications which ONE of the following completes both statements?

- 1) Following the loss of CARF 1-VS-F-1B, 1-CC-TV-110B, CARF B CLR CC RETURN TV, ___(1)___ automatically CLOSE.
 - 2) Per 1-AP-25.00, Loss of Containment Air cooling, Containment hydrogen samples ___(2)___ required.
- A. 1) will NOT
2) are
- B. 1) will
2) are NOT
- C. 1) will
2) are
- D. 1) will NOT
2) are NOT

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2021 NRC SPS RO NRC Examination

Question: 39

(1 point)

Unit 1 is at 100% power.

Which ONE of the following completes the following statements about the Unit 1 Containment Air Recirc Fans (CARFs)?

- 1) The Power supply breaker for the "A" CARF is __ (1) __.
 - 2) If a Large Break LOCA occurs, the __ (2) __ CARF will remain running.
-
- A. 1) 1-EP-BKR-14H-8
 2) "B"
 - B. 1) 1-EP-BKR-14H-8
 2) "C"
 - C. 1) 1-EP-BKR-15H8
 2) "B"
 - D. 1) 1-EP-BKR-15H8
 2) "C"

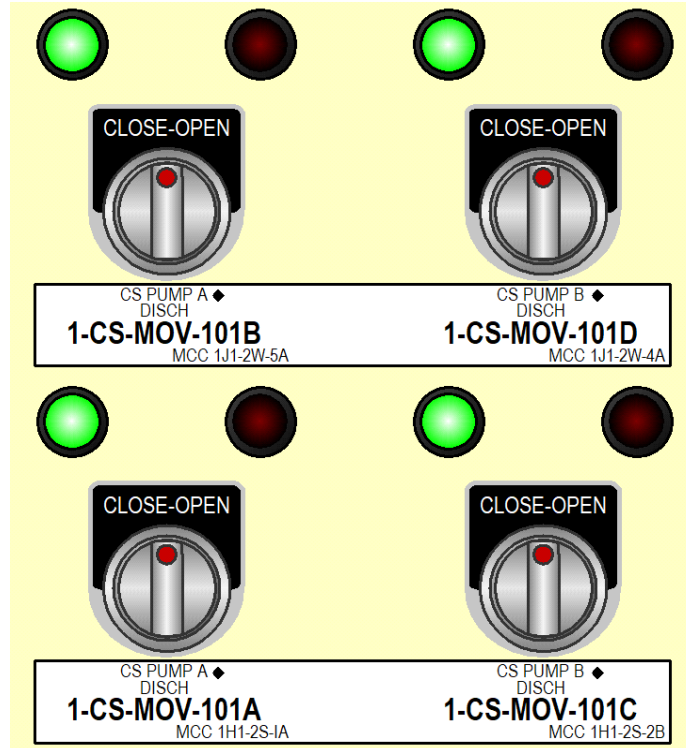
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Question: 40
(1 point)

Which ONE of the following answers both questions?

- 1) Which Discharge MOVs have an interlock with the supply breaker position for 1-CS-P-1A, Containment Spray pump? (i.e. DISCONNECT, TEST, CONNECT)
- 2) When is this interlock in effect?
 - A. 1) 1-CS-MOV-101A and B.
2) At all times.
 - B. 1) 1-CS-MOV-101A and C.
2) At all times.
 - C. 1) 1-CS-MOV-101A and C.
2) With Hi Hi CLS actuated.
 - D. 1) 1-CS-MOV-101A and B.
2) With Hi Hi CLS actuated.



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Question: 41

(1 point)

Given the following:

- Unit 1 was manually tripped from 100% due to a non-recoverable low vacuum condition.
- Condenser Vacuum is currently 24 inches Hg and is lowering at 0.2 inches Hg/minute.
- The crew has just entered 1-ES-0.1, REACTOR TRIP RESPONSE.

Which ONE of the following answers the questions below?

- 1) What temperature will Tave stabilize at with NO operator action, and assuming NO change in present conditions?
 - 2) Where is the SG PORV EMERG CLOSE SW located?
-
- A.
 - 1) 547°F.
 - 2) Unit 1 Cable Vault room.
 - B.
 - 1) 551°F.
 - 2) Unit 1 Aux Shutdown panel.
 - C.
 - 1) 547°F.
 - 2) Unit 1 Aux Shutdown panel.
 - D.
 - 1) 551°F.
 - 2) Unit 1 Cable Vault room.

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Question: 42

(1 point)

Given the following:

- Unit 1 is shutting down per 1-GOP-2.1, UNIT SHUTDOWN, FROM ALLOWABLE POWER TO LESS THAN 30%.
- The crew is at the step to shutdown the first Main Feed Pump, 1-FW-P-1A.
- FW PP RECIRC FCV, 1-FW-FCV-150A is CLOSED and in AUTO.

Which ONE of the following answers the questions below?

- 1) Per 1-GOP-2.1, what action should be taken with respect to 1-FW-FCV-150A, Feed Pump Recirc FCV immediately prior to closing the Feed Pump Discharge MOVs?
 - 2) What is the reason for the action in Part 1?
- A. 1) Check FW PP RECIRC FCV in AUTO.
2) Prevent MFP overpressurization.
 - B. 1) Place FW PP RECIRC FCV in OPEN.
2) Prevent MFP overpressurization.
 - C. 1) Place FW PP RECIRC FCV in OPEN.
2) Prevent MFP overheating.
 - D. 1) Check FW PP RECIRC FCV in AUTO.
2) Prevent MFP overheating.

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Question: 43
(1 point)

Which Main Feedwater system event will require performing the immediate actions of 1-E-0, REACTOR TRIP OR SAFETY INJECTION?

- A. FW PP 1A Recirc valve, 1-FW-FCV-150A fails open at 100% power.
- B. Overcurrent fault on the Main Feed Pump A inboard motor at 83% power.
- C. Sensing line to the Main Feed Pump A Lube Oil Pressure switches completely ruptures at 75% power.
- D. Feed Pump A Discharge MOV, 1-FW-MOV-150A fails closed at 75% power.

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Question: 44
(1 point)

Unit 1 is currently at HSD and is continuing to shutdown and cooldown the plant per 1-GOP-2.4, UNIT COOLDOWN, HSD TO 351°F.

As the plant is cooling down and depressurizing which ONE of the following must be done to prevent a loss of Auxiliary Feedwater due to inadequate NPSH?

- A. The auto-open signal for one AFW MOV on two SGs must be defeated before S/G pressure lowers below 600 psig.
- B. The auto-open signal for the AFW MOVs on one SG must be defeated before S/G pressure lowers below 600 psig.
- C. The auto-open signal for the AFW MOVs on one SG must be defeated before RCS Tave lowers below 535°F.
- D. The auto-open signal for one AFW MOV on two SGs must be defeated before RCS Tave lowers below 535°F.

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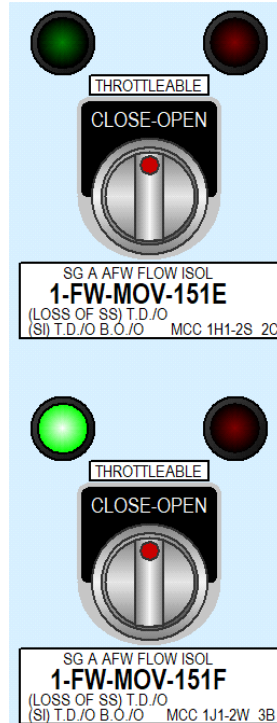
2021 NRC SPS RO NRC Examination

Question: 45

(1 point)

Given the following:

- Unit 1 reactor just tripped from 100% power.
- The team is performing Attachment 5 of 1-ES-0.1, TRANSIENT AFW FLOW CONTROL.
- While operating the control switch for 1-FW-MOV-151E to CLOSE, its light indication extinguished (as shown).
- 1-FW-MOV-151F was operated and indicates as shown:



Which ONE of the following answers the questions below?

- 1) Assuming the 1-FW-MOV-151E is at 90% open, what is the approximate Aux Feedwater Flow to the "A" S/G?
 - 2) What is the minimum number of manual valves, in accordance with 1-ES-0.1 Attachment 5, that must be operated to isolate flow through 1-FW-MOV-151E?
- A. 1) 350 gpm.
2) Three.
- B. 1) 175 gpm.
2) Three.
- C. 1) 175 gpm.
2) One.
- D. 1) 350 gpm.
2) One.

Surry Power Station

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Question: 46

(1 point)

Given the following:

- Unit 1 and Unit 2 is operating at 100% power.
- A severe electrical storm is in progress.
- Both units have the “B” and “C” Condensate pumps running.
- Unit 2 experiences a spurious SI.
- Station Service Bus 1A NORM SUP BKR 15A2 spuriously trips (no Over Current trip).

After 45 seconds has elapsed, which ONE of the following completes the statements below?

- 1) IF the operator takes 1-CN-P-1A Condensate pump handswitch to START, the pump (1) start.
- 2) IF the operator takes 2-CN-P-1A Condensate pump handswitch to START, the pump (2) start.

	<u>Unit 1, 1-CN-P-1A</u>	<u>Unit 2, 2-CN-P-1A</u>
A.	will not	will not
B.	will	will
C.	will not	will
D.	will	will not

Surry Power Station

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Question: 47

(1 point)

Given the following:

- Unit 1 was at 100%.
- A Loss of Unit 1 B DC Bus occurred.
- The team is performing the immediate actions of 1-E-0, REACTOR TRIP OR SAFETY INJECTION.

Based on the event, which ONE of the following completes both statements?

- 1) The Main Generator Output breakers __ (1) __ automatically open.
 - 2) After the Generator Output breakers are open, __ (2) __ Reactor Coolant Pump(s) will be lost.
- A. 1) will
2) both 1B and 1C
- B. 1) will not
2) only 1B
- C. 1) will not
2) both 1B and 1C
- D. 1) will
2) only 1B

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Question: 48

(1 point)

Given the following:

- Unit 2 is at 25% power.
- A loss of the Unit 2 “A” DC bus occurs.
- A loss of offsite power also occurs.

Which ONE of the following completes the statements below?

- 1) The #2 EDG ____ (1) ____ automatically load onto the 2H bus.
 - 2) If an automatic turbine trip occurred, Main Generator excitation ____ (2) ____ remain energized with no operator action.
- A. 1) will NOT
2) will NOT
- B. 1) will
2) will NOT
- C. 1) will NOT
2) will
- D. 1) will
2) will

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Question: 49

(1 point)

Given the following:

- Unit 1 is at 100%.
- Annunciator 1C-F6, EDG 1 TRBL, has just been received.
- The field operator reports the following from the #1 EDG Room:
 - The LOW AIR PRESSURE light is LIT at the local control panel.
 - Bank 1 Air pressure is 190 psig and stable.
 - Bank 2 Air pressure is 160 psig and stable.
 - The supply breaker for the #2 Air Compressor motor for EDG #1 is tripped.

Based on the event, which ONE of the following completes both statements?

- 1) Bank 2 starting air __ (1) __ sufficient to start EDG #1 if an auto start signal occurred.
- 2) To restore Bank 2 starting air, the field operator can __ (2) __.

- A.
 - 1) is
 - 2) open the cross connect valve between air banks
- B.
 - 1) is not
 - 2) immediately start the Lister diesel
- C.
 - 1) is not
 - 2) open the cross connect valve between air banks
- D.
 - 1) is
 - 2) immediately start the Lister diesel

Surry Power Station

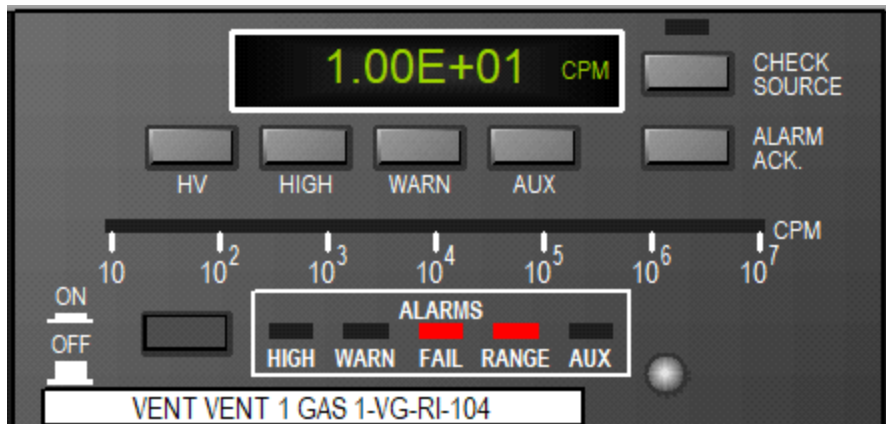
2021 NRC SPS RO NRC Examination

Question: 50

(1 point)

Given the following:

- Both Units are operating at 100%.
- Normal Ventilation lineup.
- Annunciator 0-RM-L4, VENT VENT 1 GAS ALERT/FAILURE has just alarmed.
- Indications for 1-VG-RI-104 are as shown below.



Which ONE of the following completes both statements?

- 1) The effluent release path that is monitored by this radiation monitor ___(1)___ be automatically isolated.
 - 2) What condition could cause the indications shown?
- A. 1) will
2) No pulses provided by the detector for five minutes.
- B. 1) will
2) Detector saturation.
- C. 1) will not
2) Detector saturation.
- D. 1) will not
2) No pulses provided by the detector for five minutes.

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 51

(1 point)

Given the following:

- A Large Break LOCA occurred on Unit 1 from 100% power.
- CLS Hi Hi Train A and B have just initiated.
- RWST Level is 96.5% and lowering.

Which ONE of the following choices is correct regarding the Unit 1 Recirc Spray Service Water Radiation Monitoring subsystem?

- 1) The 60 second time delay for auto-starting the associated Rad Monitor Sample Pumps begins __ (1) __.
 - 2) The Rad Monitor Sample Pumps will pump the sample streams through Process Rad Monitors located in __ (2) __ Safeguards basement.
-
- A. 1) when RWST level reaches 60%
2) Unit 2
 - B. 1) immediately after CLS HI HI
2) Unit 1
 - C. 1) when RWST level reaches 60%
2) Unit 1
 - D. 1) immediately after CLS HI HI
2) Unit 2

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 52

(1 point)

Given the following:

- Unit 1 has experienced a large break LOCA from 100% power.

Which ONE of the following components will have their supporting Service Water equipment cooling components immediately reposition from the equipment's original position, when a Hi – Hi CLS signal occurs?

- A. Recirculation Spray heat exchangers.
- B. Component Cooling Water heat exchangers.
- C. Bearing Cooling Water heat exchangers.
- D. Charging Pump oil coolers.

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 53

(1 point)

Given the following:

- Both units were at 100% power.
- A complete loss of offsite power to both units occurred.
- The team is evaluating the power availability of the Recirc Spray Service Water (RSSW) MOVs 1-SW-MOV-103A/B/C/D.

Which ONE of the following completes the statements below?

- 1) The 1H Bus supplies power to __ (1) __.
 - 2) The 480v J Bus ABT __ (2) __ energize the remaining RSSW MOVs.
-
- A. 1) 1-SW-MOV-103A and B
2) will not
 - B. 1) 1-SW-MOV-103A and D
2) will not
 - C. 1) 1-SW-MOV-103A and D
2) will
 - D. 1) 1-SW-MOV-103A and B
2) will

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 54
(1 point)

Unit 1 is starting up following a refueling outage, Unit 2 is at 100%.

Initial Conditions:

- Unit 1 RCS Heatup in accordance with 1-GOP-1.7, UNIT STARTUP, RCS HEATUP FROM AMBIENT TO HSD.
- 'A' S/G PORV is operating in AUTO to control RCS temperature at HSD.
- A sustained loss of the Semi-Vital Bus occurs.

Current Conditions (35 minutes later):

- Indications lost in the Control Room include the following:
 - PI-IA-100, Instrument Air Rcvr Disch Press.
 - PI-IA-101, Containment Instrument Air Rcvr Disch Press.
 - PI-SA-100, Service Air Rcvr Disch Press.
- The crew has entered 1-AP-10.05, Loss of Semi-Vital Bus.

Which ONE of the following completes both statements regarding the impact in accordance with 1-AP-10.05?

- 1) From the time that the Semi – Vital bus was lost, S/G PORVs __ (1) __ continue to control in AUTO for approximately 30 minutes.
 - 2) The Plant Computer System (PCS) __ (2) __ an alternate monitoring method for Instrument Air and Service Air pressure.
- A. 1) will NOT
2) is NOT
- B. 1) will NOT
2) is
- C. 1) will
2) is
- D. 1) will
2) is NOT

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 55
(1 point)

Initial Conditions:

- Unit 1 was operating at 100% power.
- The RO reported Pressurizer level was 45% and lowering rapidly.
- The RO completed Immediate Actions of 1-AP-16.00, Excessive RCS Leakage.
- The Crew subsequently tripped the reactor and initiated safety injection.

Current Conditions:

- RCS pressure is 1320 psig and stable.
- Containment pressure is 20.5 psia and stable.
- The following valves are OPEN:
 - 1-SV-TV-102, AE DISCH TO CTMT TB TV.
 - 1-IA-TV-100, CTMT COMP DISCH TV.
 - 1-CC-TV-140A, RCP THERM BARR CC RTN I/S TV.
 - 1-IA-TV-101B, IA COMPR CTMT SUCT O/S TV.

Which ONE of the following sets of Containment Isolation valves should currently be CLOSED?

- A. 1-IA-TV-100 and 1-IA-TV-101B.
- B. 1-SV-TV-102 and 1-CC-TV-140A.
- C. 1-SV-TV-102 and 1-IA-TV-101B.
- D. 1-IA-TV-100 and 1-CC-TV-140A.

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 56

(1 point)

A Reactor startup is in progress on Unit 1.

- Critical Rod height data is in progress.
- CRDM Fan 1-VS-F-60A has tripped.
- The crew enters 1-AP-25.00, LOSS OF CONTAINMENT COOLING.
- An operator has been dispatched to check the local breaker for 1-VS-F-60A.
- The team has started standby CRDM fan 1-VS-F-60D.

Which ONE of the following completes the following statements in accordance with 1-AP-25.00?

1) Rod motion limits ____(1)___ required.

2) A reactor shutdown is required if ____(2)___.

- A. 1) are
2) a CRDM fan can NOT be started in more than one duct
- B. 1) are NOT
2) CRDM fan outlet temperature reaches 210°F
- C. 1) are NOT
2) a CRDM fan can NOT be started in more than one duct
- D. 1) are
2) CRDM fan outlet temperature reaches 210°F

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 57

(1 point)

Given the following:

- Unit 1 is at Cold Shutdown (CSD).
- The Overpressure Mitigating System (OPMS) is in service.
- 1-RC-PI-1403, RC PRESS NARROW RANGE, just failed to 800 psig.

Which ONE of the following completes both statements?

- 1) Pressurizer PORV __(1)__ will be open.
- 2) Placing the PORV control switch to the CLOSE position __(2)__ close the affected PORV.

- A. 1) 1-RC-PCV-1455C
2) will
- B. 1) 1-RC-PCV-1456
2) will NOT
- C. 1) 1-RC-PCV-1456
2) will
- D. 1) 1-RC-PCV-1455C
2) will NOT

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 58
(1 point)

Which ONE (1) of the following identifies (in the order presented) the normal power (480V) supplies for the following Pressurizer Heater Groups?

Group A (Backup) _____, Group B (Backup) _____, Group C (Proportional) _____.

	Group A (BU)	Group B (BU)	Group C (Prop)
A.	1H1	1A1	1B1
B.	1J1	1B1	1A1
C.	1H1	1B1	1A1
D.	1J1	1A1	1B1

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 59
(1 point)

Initial Conditions:

- Unit 1 tripped from 100%.
- The unit was stabilized at Hot Shutdown (HSD).
- The team was performing Step 2 of 1-ES-0.1, REACTOR TRIP RESPONSE.

Current Conditions:

- A Small Break Loss Of Coolant Accident (SBLOCA) occurred on Unit 1.
- The team transitioned back to 1-E-0, REACTOR TRIP OR SAFETY INJECTION.
- Multiple failures in the High Head Safety Injection (HHSI) system are resulting in a constant rise in Core Exit Thermocouple (CETC) indication.
- All RCPs have been secured.
- The Assistant RO is performing Attachment 2 of 1-E-0, CHECKING SI VALVE ALIGNMENT, to correct the degraded HHSI flow.

Which ONE of the following completes both statements?

- 1) Immediately after CETCs reach __ (1) __, an ORANGE path Status Tree will be MET for 1-FR-C.2, RESPONSE TO DEGRADED CORE COOLING.
 - 2) For Current Conditions, IF an ORANGE path is entered, crew performance of Attachment 2 __ (2) __.
- A. 1) 1200°F 2) must be suspended
- B. 1) 700°F 2) is required in parallel with performing the ORANGE path procedure
- C. 1) 700°F 2) must be suspended
- D. 1) 1200°F 2) is required in parallel with performing the ORANGE path procedure

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 60
(1 point)

Initial Conditions:

- Unit 1 is operating at 100%.
- Ch3 (P1446) is selected for Pimp.
- Pimp Ch 3 (P1446) Fails low to 40%.
- The Crew enters 0-AP-53.00, LOSS OF VITAL INSTRUMENTATION/CONTROLS.

Current Conditions:

- The crew has completed actions per 0-AP-53.00, Pimp Ch 4 is now selected.
- A Turbine control malfunction causes the turbine and reactor to trip.

Which ONE of the following completes both statements?

- 1) Immediately after Pimp Ch 3 failed to 40% Steam Dump Demand Indicator on the Vertical Board was reading __ (1) __.
- 2) Following the reactor and turbine trip the Steam dumps will modulate to control Tave at __ (2) __.

- | | | |
|----|---------|-----------|
| A. | 1) 0% | 2) 557 °F |
| B. | 1) 100% | 2) 547 °F |
| C. | 1) 100% | 2) 557 °F |
| D. | 1) 0% | 2) 547 °F |

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 61
(1 point)

Given the following:

- Unit 1 is performing a Main Turbine startup per 1-OP-TM-001, TURBINE – GENERATOR STARTUP TO 20% - 25% TURBINE POWER, Section 5.3, LATCHING THE TURBINE.
- At step 5.3.7, the operator depressed and held the LATCH pushbutton.
 - Annunciator 1G-A5, VAC TRIP LATCH ACTUATED, is LIT.
 - The LATCH pushbutton is now backlit.
 - The operator is still depressing the LATCH pushbutton.

Which ONE of the following completes both statements AFTER the operator releases the LATCH pushbutton?

- 1) The Intercept valves __(1)__ be closed.
- 2) Annunciator 1G-A5 will be __(2)___.

- A. 1) will NOT
2) NOT LIT
- B. 1) will
2) NOT LIT
- C. 1) will NOT
2) LIT
- D. 1) will
2) LIT

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 62
(1 point)

Initial Conditions:

- Unit 1 is at 100% power.
- The following indications are observed:
 - Condenser vacuum is 27.3 in Hg and worsening.
 - All waterbox outlet temperatures are 86°F and stable.
 - Gen MW is 890.6 and lowering.
- Both Turbine Building operators are investigating.

Current Conditions (7 minutes later):

- The team is performing 1-AP-14.00, LOSS OF MAIN CONDENSER VACUUM.
- BOP reports:
 - Condenser Vacuum is now 26.5 in Hg, and worsening.
 - Water box temperatures remain at 86°F and stable.
 - No alarms are lit.

Which ONE of the following completes both statements in accordance with 1-AP-14.00, Loss of Main Condenser Vacuum?

- 1) For the current conditions, the Condenser Hoggers are __ (1) __ be placed in service.
 - 2) Per 1-AP-14.00, if Condenser vacuum lowers to __ (2) __ the Turbine must be immediately tripped.
-
- A. 1) not required
2) 25 in Hg
 - B. 1) required
2) 25 in Hg
 - C. 1) not required
2) 22.5 in Hg
 - D. 1) required
2) 22.5 in Hg

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 63

(1 point)

Given the following:

- Unit 1 is at 100% power.
- The “B” train of 2nd, 3rd and 4th Point Feedwater Heaters must be bypassed for maintenance.

Which ONE of the following completes both statements in accordance with 1-MOP-FW-006, REMOVAL FROM AND RETURN TO SERVICE OF LP FW HEATERS?

- 1) Reactor power must be reduced to a maximum of __ (1) __.
 - 2) Bypassing only one train of 2nd, 3rd and 4th Point Feedwater Heaters __ (2) __ permitted.
-
- A. 1) 80%
2) is NOT
 - B. 1) 90%
2) is
 - C. 1) 90%
2) is NOT
 - D. 1) 80%
2) is

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 64

(1 point)

Given the following:

- The Water Treatment crew is performing 0-OP-RW-003, RESIN TRANSFER FROM IXS TO HIGH INTEGRITY CONTAINER.
- A primary liquid resin transfer has just commenced from 1-CH-I-1A (Unit 1A Mixed Bed IX) to a High Integrity Container (HIC).

Which one of the following completes both statements?

- 1) During the resin transfer, elevated dose rates are expected in the __ (1) __.
 - 2) If the flow path in the Auxiliary building develops a leak, the water entering the radiological floor drains will be pumped directly to the __ (2) __.
- A. 1) Surry Radwaste Facility
2) Surry Radwaste Facility
 - B. 1) Surry Radwaste Facility
2) Liquid Waste header
 - C. 1) Decon Building
2) Liquid Waste header
 - D. 1) Decon Building
2) Surry Radwaste Facility

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2021 NRC SPS RO NRC Examination

Question: 65

(1 point)

Given the following:

- Unit 1 is in a Refueling shutdown with Fuel offload in progress.
- Containment purge is in operation with Containment Purge Supply fans and 1-VS-F-59, AUX BLDG (CAT 2) Filter Fan is running.
- A Containment Instrument Air compressor is in operation on its normal suction flow path.
- Annunciator 1-RM-K8, 1-RM-RI-162 HIGH, alarms.
- The BOP confirms that the MANPLTR CRN 1-RM-RI-162, is above the HIGH setpoint.

Based on the conditions given, which ONE of the following completes the statements below?

- 1) 1-VS-F-59 __ (1) __ automatically trip.
 - 2) With no operator action, 1-IA-AOV-103, CTMT IA COMPR OUTSIDE SUCTION __ (2) __ OPEN.
- A. 1) will NOT
2) will NOT
 - B. 1) will
2) will NOT
 - C. 1) will NOT
2) will
 - D. 1) will
2) will

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 66

(1 point)

Per OP-AA-100, CONDUCT OF OPERATIONS, which ONE of the following is correct?

- 1) A plant announcement for starting 1-VS-F-29A, Turbine Building Exhaust Fan, __ (2) __ required.
- 2) A plant announcement for primary resin transfer to a HIC __ (1) __ required.

- A. (1) is (2) is not
- B. (1) is not (2) is not
- C. (1) is (2) is
- D. (1) is not (2) is

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 67

(1 point)

Given the following:

- Unit 1 is at 25% power.
- Unit 1 is preparing to perform SI Accumulator recirculation and sampling per 1-OP-SI-002, SAFETY INJECTION ACCUMULATORS.
- Administrative control will be required for two manual valves, both located in the Auxiliary Building.

Which ONE of the following completes the following statements in accordance with SUADM-O-26, ADMINISTRATIVE CONTROL OF OPERATIONAL COMPONENTS, and 1-OP-SI-002?

- 1) One operator __ (1) __ permitted to be assigned administrative control of both manual valves.
 - 2) It __ (2) __ acceptable for an operator assigned to the Fire Team to also have an administrative control function.
- A. 1) is NOT
2) is NOT
- B. 1) is NOT
2) is
- C. 1) is
2) is NOT
- D. 1) is
2) is

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 68

(1 point)

Refueling Integrity has just been set for Unit 2.

Which one of the following completes both statements in accordance with 1-OP-CT-002, CONTAINMENT PENETRATION BREACH LOG?

- 1) The __ (1) __ shall maintain control of the Containment Penetration Breach log.
 - 2) The names of the containment closure team __ (2) __ required to be recorded in the Unit Narrative Log.
- A.
 - 1) Shift Manager
 - 2) are
 - B.
 - 1) Maintenance Manager
 - 2) are NOT
 - C.
 - 1) Shift Manager
 - 2) are NOT
 - D.
 - 1) Maintenance Manager
 - 2) are

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2021 NRC SPS RO NRC Examination

Question: 69
(1 point)

Given the following:

- Unit 1 is at 32% power and shutting down per 1-GOP-2.1, UNIT SHUTDOWN to LESS THAN 30%, for refueling outage.
- The BOP is preparing to transfer station Electrical Service from Normal to Reserve in accordance with Attachment 6, "Transferring to RSS Supply".
- No other reactor operators are available for a peer check.

Which ONE of the following completes both statements?

- 1) OP-AA-100, Conduct of Operations __ (1) __ contain an allowance to perform a control room manipulation without a peer check from another reactor operator during normal or routine operations activities.
 - 2) If the transfer was performed incorrectly by opening the Station Service Norm Sup Bkr 15C2 prior to closing Reserve Sup Bkr 15C1 the reactor __ (2) __ required to be manually tripped.
- A. 1) does NOT
2) is NOT
- B. 1) does
2) is
- C. 1) does
2) is NOT
- D. 1) does NOT
2) is

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 70

(1 point)

Given the following:

- 1B Waste Gas Decay Tank (WGDT) is in service on the “A” oxygen analyzer.
- Preparations are being made to place the “B” WGDT on holdup for release in accordance with OP-23.2.1, PUTTING WGDT 1B ON HOLDUP AND WGDT 1A IN SERVICE.
- Initial Hydrogen concentration in “B” WGDT is 8.1%.
- “B” WGDT pressure is 115 psig.
- Annunciator 0-WD-D9, WASTE GAS DECAY TANKS HI O₂, is LIT and verified at the alarm setpoint.

Which ONE of the following completes both statements?

- 1) In accordance with OP-23.2.1, release of “B” WGDT __ (1) __ permitted.
 - 2) In accordance with TS 3.11.B, Gas Storage Tanks, the maximum curie content in each gas storage tank is limited to a maximum of __ (2) __ in order to limit the total body exposure to an individual at the exclusion boundary.
-
- A. 1) is
2) 24,600 curies
 - B. 1) is NOT
2) 24,600 curies
 - C. 1) is
2) 12,300 curies
 - D. 1) is NOT
2) 12,300 curies

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 71

(1 point)

Given the following:

- Unit 1 is at 15% power.
- Pressurizer level is 22.4% and lowering.

Which ONE of the following completes the statements below?

- 1) At this time, the team will use the __ (1) __ RMs to evaluate for a primary to secondary leak.
- 2) If Health Physics is directed to take local surveys at the appropriate rad monitors, they must be sent to Unit 1 __ (2) __.

- A.
 - 1) N-16
 - 2) Mechanical Equipment Room
- B.
 - 1) Main Steam
 - 2) Mechanical Equipment Room
- C.
 - 1) N-16
 - 2) Safeguards
- D.
 - 1) Main Steam
 - 2) Safeguards

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 72

(1 point)

Which ONE of the following completes both statements in accordance with VPAP-2101, Radiation Protection Program?

- 1) The RWP for performing Operator log rounds in the Auxiliary Building is an example of a ___(1)___ RWP.
- 2) A ___(2)___ RWP is used for the hanging of caution tag(s) to prevent inadvertent RCS dilution per 1-GOP-2.2, UNIT SHUTDOWN, LESS THAN 30 % TO HSD.

- A.
 - 1) General
 - 2) Specific
- B.
 - 1) Specific
 - 2) Specific
- C.
 - 1) General
 - 2) General
- D.
 - 1) Specific
 - 2) General

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 73

(1 point)

Given the following:

- Unit 1 is shutdown, with an RCS cooldown in progress.
- A spurious Train "A" Safety Injection (SI) has just occurred.
- 500 gpm of High Head SI flow to the Cold Legs is indicated.

Which ONE of the following completes the statements below?

- 1) The earliest time that an Abnormal Procedure is allowed to be used in lieu of 1-E-0 for this event is when RCS temperature first reaches __(1)__.
 - A. 1) 200°F
 - 2) will not
 - B. 1) 350°F
 - 2) will
 - C. 1) 350°F
 - 2) will not
 - D. 1) 200°F
 - 2) will
- 2) This Abnormal Procedure __(2)__ direct depressing the SI ACTUATION TRAIN A pushbutton.

Surry Power Station

2021 NRC SPS RO NRC Examination

Question: 74

(1 point)

Unit 2 is operating at 100% power.

- Reactor Operator notices that 2K-H1 Power indicating lights are “out”.
- Reactor Operator verifies that the light bulbs are “good”.
- Team enters 0-AP-10.13, LOSS OF MAIN CONTROL ROOM ANNUNCIATORS.

Which ONE of the following completes the statements below?

- 1) The power supplies that are lost to cause a total loss of Unit 2 Annunciators are __ (1) __.
 - 2) The example of a Unit 2 “annunciator functional check” listed in 0-AP-10.13 __ (2) __ local action outside the MCR.
-
- A. 1) MCC 2H1-1 and “A” DC bus
2) does NOT require
 - B. 1) MCC 2H1-1 and “A” DC bus
2) requires
 - C. 1) MCC 2J1-1 and Vital Bus III
2) does NOT require
 - D. 1) MCC 2J1-1 and Vital Bus III
2) requires

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2021 NRC SPS RO NRC Examination

Question: 75

(1 point)

Unit 1 is initially at 88% power. A plant transient occurs causing the following changes:

Parameter	Initial	Current
Reactor Power	88%	91%
Generator MWe	810.9 MWe	887.1 MWe
Pressurizer Level	49.5%	48.3%
Pressurizer Pressure	2235 psig	2215 psig
RCS Tave	569.7 °F	568.3 °F
Valve Positioner Limiter Light	Not-lit	Lit

Which one of the following procedures addresses all the conditions given?

- A. 1-AP-31.00, Increasing or Decreasing RCS Pressure.
- B. 1-AP-16.00, Excessive RCS Leakage.
- C. 1-AP-38.00, Main Steam System Control Malfunction.
- D. 1-AP-18.00, Loss of HP Heater Drain Pump.

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2021 NRC SPS SRO NRC Examination

Question: 1
(1 point)

Initial Conditions:

- Unit 1 was at 100%.
- The crew responded to “A” RCS Loop T_{HOT} failing low.
- All actions have been completed for 0-AP-53.00, LOSS OF VITAL INSTRUMENTATION/CONTROLS.
- I&C has placed the associated bistables for “A” Loop T_{AVE} and ΔT in TRIP.

Current Conditions (30 minutes later):

- Power Range NI N-44 failed low to 0%.
- The team is performing 1-AP-4.00, NI MALFUNCTION.

Which one of the following completes the statements below?

- 1) Based on current conditions, placing the N-44 bistables in TRIP __ (1) __ cause a reactor trip to occur.
- 2) Based on current conditions, verifying P-7 permissive status lights within one hour __ (2) __ required.

- A. 1) will not
2) is not
- B. 1) will
2) is not
- C. 1) will not
2) is
- D. 1) will
2) is

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 2
(1 point)

Initial Conditions:

The Crew has tripped Unit 1 from 100% due to a stuck open PRZR Safety Valve.

- The crew was performing the actions of 1-ES-1.2, POST LOCA COOLDOWN AND DEPRESSURIZATION.
- Both LHSI pumps have been stopped.
- Normal Charging has been re-aligned and one Charging pump has been stopped.
- All RCPs are OFF.
- The crew has performed steps to depressurize the RCS to minimize Subcooling.
- RCS subcooling was 39°F and stable.

Current Conditions (15 minutes later):

- RCS Subcooling is 25°F and trending LOWER.
- PRZR level is 65% and trending HIGHER.

Which one of the following is the required action to be taken in accordance with 1-ES-1.2?

- A. Start charging pump(s) and align HHSI flow.
- B. Start one RCP.
- C. Manually initiate SI.
- D. Turn on PRZR heaters.

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2021 NRC SPS SRO NRC Examination

Question: 3
(1 point)

Given the following:

- The following annunciators are alarming:
 - 1C-A2, RCP 1A THERMAL BARRIER HI FLOW.
 - 1C-A3, RCP 1A THERMAL BARRIER CC HI TEMP.
- “A” RCP Thermal Barrier CC flow is 57 gpm.
- The following Trip Valves are OPEN:
 - 1-CC-TV-120A, RCP 1A THERMAL BARRIER CC OUTLET TRIP VALVE.
 - 1-CC-TV-140A, RCP THERMAL BARRIER CC RET INSIDE TRIP VALVE.
 - 1-CC-TV-140B, RCP THERMAL BARRIER CC RET OUTSIDE TRIP VALVE.

Which ONE of the following completes both statements?

- 1) In accordance with ARPs 1C-A2 and 1C-A3, __ (1) __ is/are required to be manually closed.
- 2) Closing 1-CC-TV-120A, RCP 1A THERMAL BARRIER CC OUTLET TRIP VALVE, __ (2) __ ensure the minimum required containment isolation boundary is met.

- A. 1) 1-CC-TV-120A only
2) will
- B. 1) 1-CC-TV-120A and 1-CC-TV-140A/-140B
2) will
- C. 1) 1-CC-TV-120A only
2) will NOT
- D. 1) 1-CC-TV-120A and 1-CC-TV-140A/-140B
2) will NOT

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2021 NRC SPS SRO NRC Examination

Question: 4

(1 point)

Given the following:

- A Large Break LOCA has occurred on Unit 1.
- The crew has reached Step 16 in 1-E-1, LOSS OF REACTOR OR SECONDARY COOLANT, but has not performed Step 16 yet. Step 16 is CHECK IF EDGs CAN BE STOPPED.
- Annunciator 1A-A7, RWST LO LVL has just alarmed.
- RWST level is 19.0% and lowering.

Based on the given conditions, which ONE of the following answers the questions below?

- 1) Which action is required to be performed FIRST?
 - 2) As RWST level continues to lower to the RMT actuation level, what is the minimum number of channels for RMT to actuate?
-
- A.
 - 1) Place SI in Cold Leg Recirculation.
 - 2) Two (2).
 - B.
 - 1) Place SI in Cold Leg Recirculation.
 - 2) Three (3).
 - C.
 - 1) Check if EDGs can be stopped.
 - 2) Three (3).
 - D.
 - 1) Check if EDGs can be stopped.
 - 2) Two (2).

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2021 NRC SPS SRO NRC Examination

Question: 5

(1 point)

Given the following:

- Unit 1 is at 100% power.
- The Unit 1 RO has just observed the following:
 - Annunciators 1C-D3/-E3/-F3, RCP 1A/1B/1C SEAL WTR LO INJ FLOW, are all alarming.
 - All Seal Injection flows indicate 2 gpm each.
 - Charging flow has lowered from 88 gpm to 63 gpm.
 - Charging Pump discharge pressure lowered to 2315 psig.

Which ONE of the following completes the statement below?

- 1) The abnormal Seal Injection flows are due to a __ (1) __.
- 2) In accordance with 1-AP-8.00, LOSS OF NORMAL CHARGING FLOW, a manual Reactor Trip __ (2) __ required.

- A.
 - 1) clogged Seal Injection filter
 - 2) is not
- B.
 - 1) Seal Injection piping break
 - 2) is not
- C.
 - 1) clogged Seal Injection filter
 - 2) is
- D.
 - 1) Seal Injection piping break
 - 2) is

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2021 NRC SPS SRO NRC Examination

Question: 6
(1 point)

Given the following:

- Unit 1 in CSD and making preps for refueling.
- A large Earthquake occurs.
- The RHR system was heavily damaged and is unable to provide cooling.
- The crew is performing actions per 1-AP-27.00, Loss of Decay Heat Removal, and has been directed to establish Forced Feed Cooling per Attachment 6.

Which ONE of the following completes both statements in accordance with 1-AP-27.00, LOSS OF DECAY HEAT REMOVAL, Attachment 6, Forced Feed Cooling.

- 1) The __ (1) __ leg is the preferred injection path.
- 2) LHSI Pump flow is required to be limited to less than __ (2) __ gpm.

- | | | |
|----|---------|---------|
| A. | 1) hot | 2) 3000 |
| B. | 1) cold | 2) 3000 |
| C. | 1) cold | 2) 440 |
| D. | 1) hot | 2) 440 |

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2021 NRC SPS SRO NRC Examination

Question: 7

(1 point)

Given the following:

- Unit 2 is at 100% power.
- The following Unit 2 annunciators are LIT:
 - 2C-F8, PRZR HI PRESS.
 - 2D-H4, PRZR SFTY VV PWR RELIEF VV OPEN.
- Pressurizer Pressure Control Instrumentation Channels indicate as follows:
 - 2-RC-PI-2444 is 2210 psig and lowering.
 - 2-RC-PI-2445 is 2500 psig and stable.
- Per immediate action steps, the RO takes the control switch for the affected Pressurizer PORV to CLOSE.
- The affected PORV position indicator lights now show GREEN.
- Pressurizer Pressure is now 2185 psig and slowly lowering at 5 psig/minute.

Which ONE of the following completes both statements?

- 1) In accordance with 0-AP-53.00, LOSS OF VITAL INSTRUMENTATION/CONTROLS, the next required action that will stabilize RCS pressure is to close the associated __ (1) __.
 - 2) For the inoperable PORV, Tech Spec 3.1.A.6, RCS – RELIEF VALVES, __ (2) __ de-energizing the associated Block MOV.
-
- A. 1) Spray Valve Remote Close SOVs
2) does NOT require
 - B. 1) Spray Valve Remote Close SOVs
2) requires
 - C. 1) Block MOV
2) does NOT require
 - D. 1) Block MOV
2) requires

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2021 NRC SPS SRO NRC Examination

Question: 8

(1 point)

Initial Conditions:

- Unit 1 was operating at 100% when the turbine tripped on low lube oil pressure.
- The Reactor failed to trip automatically or manually.
- The Crew entered 1-FR-S.1, RESPONSE TO NUCLEAR GENERATION ATWS.
- Both Reactor Trip breakers were still closed.

Current Conditions (5 minutes later):

- The Service Building inside watch is dispatched to locally open the Reactor Trip breakers.
- Safety Injection is not in service.
- Emergency Boration is in progress.

Which ONE of the following completes the following?

- 1) The Unit 1 Reactor Trip breakers are located in the Unit 1 ____(1)___.
- 2) Per 1-FR-S.1, the crew must remain in 1-FR-S.1 until ____(2)___.

- A.
 - 1) Normal Switchgear Room
 - 2) Emergency boration is complete
- B.
 - 1) Cable Tray Room
 - 2) PRNI is < 5% and IRNI have negative startup rate
- C.
 - 1) Cable Tray Room
 - 2) Emergency boration is complete
- D.
 - 1) Normal Switchgear Room
 - 2) PRNI is < 5% and IRNI have negative startup rate

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2021 NRC SPS SRO NRC Examination

Question: 9

(1 point)

Initial Conditions:

- A Unit 1 "A" Steam Generator Tube Rupture (SGTR) occurred.
- The "B" and "C" Reactor Coolant Pumps tripped on Station Service Bus swapover.
- The "A" RCP remains in operation.
- The team has completed RCS cooldown and depressurization per 1-E-3, STEAM GENERATOR TUBE RUPTURE.
- The team is performing 1-ES-3.3, POST-SGTR COOLDOWN USING STEAM DUMP.
- RCS has been cooled down to 350°F per 1-ES-3.3.
- RCS pressure is 720 psig and stable.
- The Unit 1 team is attempting to lower "A" S/G pressure by 100 psig, using the MSTV bypass valve.
- With "A" S/G lowered to 620 psig, RCS leakrate is 100 gpm.

Current Conditions:

- The "A" S/G Pressure was inadvertently lowered to 420 psig, instead of 620 psig, and is continuing to lower due to difficulty reclosing the MSTV bypass valve.

Which ONE of the following completes both statements?

- 1) With the "A" S/G pressure at 420 psig the primary-to-secondary leak rate through the ruptured U-tubes is (1) .
 - 2) If the "A" MSTV bypass cannot be closed, the first consequence that requires operator action will be (2) .
-
- A. 1) 173 gpm
2) pressure below minimum for continued RCP operation
 - B. 1) 173 gpm
2) pressure drop causing vessel head void formation
 - C. 1) 141 gpm
2) pressure below minimum for continued RCP operation
 - D. 1) 141 gpm
2) pressure drop causing vessel head void formation

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2021 NRC SPS SRO NRC Examination

Question: 10

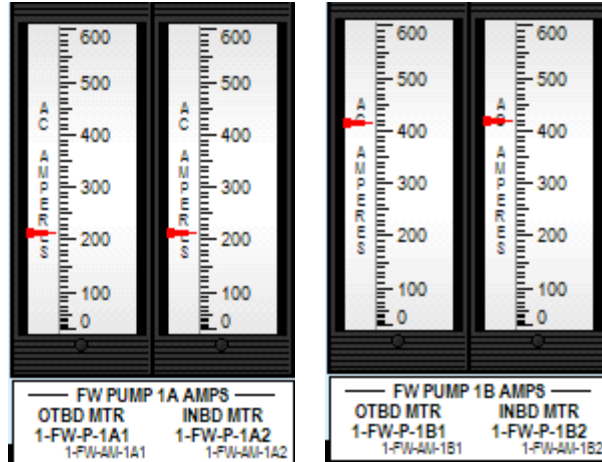
(1 point)

Given the following:

- Unit 1 is operating at 75% when the following Feed pump indications were noted.

One minute later...

- Annunciators 1H-G5/6/7, STM GEN 1A/1B/1C LVL ERROR are lit.
- SG NR Lvl 32% and lowering in all SGs.
- MFRV demand rising on all MFRVs.



Which ONE of the following, completes the statements below?

- Per 1-AP-21.00, LOSS OF MAIN FEEDWATER FLOW, a condensate pump __ (1) __ required to be started prior to lowering turbine load.
 - The reason for lowering turbine load is to __ (2) __.
- is NOT
 - stabilize Main feed pump amps below 420 amps
 - is
 - stabilize Main feed pump amps below 420 amps
 - is
 - match feed flow with steam flow to stabilize SG level
 - is NOT
 - match feed flow with steam flow to stabilize SG level

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2021 NRC SPS SRO NRC Examination

Question: 11

(1 point)

Given the following:

- A loss of all AC Emergency Power occurred on Unit 1.
- The team is performing 1-ECA-0.0, LOSS OF ALL AC POWER.
- The RO is trending DC Bus voltages on the Plant Computer (PCS).

Given the current DC voltages and trends on the attached PCS display, which ONE of the following completes both statements in accordance with 1-ECA-0.0?

- 1) The soonest time that a complete loss of a DC Bus is expected is __ (1) __.
- 2) Declaration of an Extended Loss of AC Power (ELAP) __ (2) __ required.

REFERENCE PROVIDED

- A.
 - 1) 20-30 minutes
 - 2) is
- B.
 - 1) 1 hour
 - 2) is
- C.
 - 1) 20-30 minutes
 - 2) is not
- D.
 - 1) 1 hour
 - 2) is not

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2021 NRC SPS SRO NRC Examination

Question: 12

(1 point)

Given the following:

- Unit 1 was operating at 100% power.
- Multiple annunciators have alarmed including the following:
 - 1F-F1/2/3: STM GEN 1A/1B/1C CH 3 HI STM LINE FLOW.
 - 1E-E6: RX TRIP CH 3 OT Δ T LOOP 1C.
 - 1E-E7: RX TRIP CH 3 OP Δ T LOOP 1C.
 - 1C-A1: RCP 1A CC RETURN LO FLOW.
 - 1C-F3: RCP 1C SHAFT SEAL WTR LO INJ FLOW

Based on the conditions given, which ONE of the following correctly completes the statements below?

- 1) A loss of Vital Bus __ (1) __ has occurred.
 - 2) The abnormal procedure for this Vital Bus __ (2) __ a step to trip the reactor.
-
- A. 1) 3
2) does NOT include
- B. 1) 4
2) includes
- C. 1) 4
2) does NOT include
- D. 1) 3
2) includes

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2021 NRC SPS SRO NRC Examination

Question: 13

(1 point)

Initial Conditions:

- Unit 1 was operating at 100% when a loss of the 1H Emergency Bus occurred.
- The team is performing the following procedures:
 - 1-AP-10.07, LOSS OF UNIT 1 POWER.
 - 0-AP-17.04, EDG 1 OR EDG 2 – EMERGENCY OPERATIONS.
- EDG #1 is running at 900 RPM.
- Per 1-AP-10.07 Attachment 1, EDG FAILURE CONTINGENCY ACTIONS, the control switch for 15H3 was placed in Start (Red flag).
- The breaker status lights for 15H3, EMERG SUP, are all NOT lit.
- EMERG BUS 1H VOLTS indicates 0 volts.

Current Conditions:

- EDG #1 is still running with its AUTO/EXERCISE EMERG GEN 1 switch in AUTO.
- The team is at 0-AP-17.04 step 16, checking the DC Power fuses at breaker 15H3.
- Breaker 15H3 is locally verified OPEN.
- The amber light on the Diesel Isolation Panel in the ESGR is NOT LIT.

Based on current conditions, which ONE of the following correctly completes the statements below?

- 1) 0-AP-17.04 directs placing Breaker 15H3 in __ (1) __ prior to replacing the DC fuses.
- 2) After the 15H3 fuses are replaced, the Auxiliary Trip Relay __ (2) __ need to be manually reset.

- A. 1) Stop (Green flag)
2) will
- B. 1) Pull To Lock
2) will not
- C. 1) Stop (Green flag)
2) will not
- D. 1) Pull To Lock
2) will

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2021 NRC SPS SRO NRC Examination

Question: 14

(1 point)

Initial Conditions:

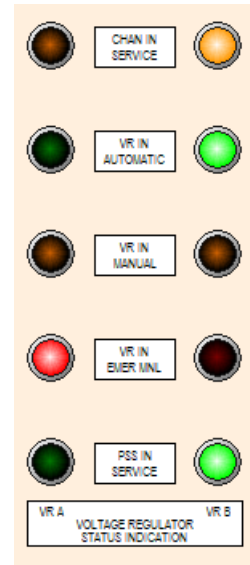
- Unit 1 and Unit 2 are operating at 100%.
- Unit 1 Gen H2 pressure is at 60 psig, and stable.
- The plant has been notified by SOC that there are significant grid instabilities.
- The SOC has requested maximum power generation from both units.
- The Operator observes rising MVARs, and is attempting to lower MVARs.

Current Conditions:

- The following Annunciators are alarming:
 - 1J-A8, OVER EXCITATION LIMIT.
 - 1J-B7, VREG CHANNEL A LOCAL.
- The BOP reports the following Unit 1 changes:
 - Gen MWe lowered from 905 to 900 MWe.
 - Gen MVARs rose from + 10 to +350 MVARs.
 - Voltage Regulators have shifted and are as shown.

Which ONE of the following completes the statements below?

- 1) Based on the information given in the current conditions, the Main Generator limits __(1)__ being exceeded.
- 2) Per ARP 1J-A8, OVER EXCITATION LIMIT the operator should attempt to regain control of Generator Voltage using the __(2)__.



REFERENCE PROVIDED

- A. 1) are
2) Local RAISE/LOWER pushbuttons
- B. 1) are NOT
2) MCR Excitation Level Raise/Lower Switch
- C. 1) are
2) MCR Excitation Level Raise/Lower Switch
- D. 1) are NOT
2) Local RAISE/LOWER pushbuttons

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2021 NRC SPS SRO NRC Examination

Question: 15

(1 point)

Given the following:

- Unit 2 RCS pressure is 990 psig and lowering.
- The team has transitioned to 2-ECA-1.2, LOCA Outside Containment.
- The team is ready to begin attempts to Identify and Isolate the break.

Which of the following answers the questions below?

- 1) What is the first flow path the crew will attempt to isolate per 2-ECA-1.2, step 2?
 - 2) In accordance with 2-ECA-1.2, what parameter is checked to determine if the break is isolated?
-
- A. 1) Low Head Safety Injection.
2) Pressurizer level rising.
 - B. 1) Charging Line.
2) Pressurizer level rising.
 - C. 1) Charging Line.
2) RCS pressure rising.
 - D. 1) Low Head Safety Injection.
2) RCS pressure rising.

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2021 NRC SPS SRO NRC Examination

Question: 16

(1 point)

The crew is performing FR-H.1, LOSS OF HEAT SINK, and is attempting to establish feed flow from the condensate system. Safety Injection has initiated.

Per 1-FR-H.1 Which ONE of the following completes the statements below regarding the actions the crew must take in order to use this method?

- 1) In order to close a Feed pump breaker in test, the crew must **first** (1) .
 - 2) The crew will dump steam to the condenser at maximum rate to depressurize (2) .
-
- A.
 - 1) reset the FW isolation signal, followed by the Safety Injection signal
 - 2) one intact SG to less than 550 psig
 - B.
 - 1) reset the FW isolation signal, followed by the Safety Injection signal
 - 2) all intact SGs to less than 300 psig
 - C.
 - 1) reset the Safety Injection signal, followed by the FW isolation signal.
 - 2) one intact SG to less than 550 psig
 - D.
 - 1) reset the Safety Injection signal, followed by the FW isolation signal.
 - 2) all intact SGs to less than 300 psig

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2021 NRC SPS SRO NRC Examination

Question: 17

(1 point)

Given the following:

- Unit 2 experienced a LOCA from 100% power.
- The following Spray pumps are running:
 - 2-CS-P-1A, A Containment spray pump.
 - 2-CS-P-1B, B Containment spray pump.
 - 2-RS-P-1A, A Inside Recirc spray pump.
 - 2-RS-P-2A, A Outside Recirc spray pump.
- The team is performing 2-ECA-1.1, LOSS OF EMERGENCY COOLANT RECIRCULATION.
- Per 2-ECA-1.1, one CS pump must be secured.
- Containment pressure is 25 psia and lowering.
- Containment sump level is 5.2 feet and rising.

Which one of the following completes both statements, in accordance with 2-ECA-1.1?

- 1) The CS pump will be secured __ (1) __.
 - 2) If 2-CS-P-1A is secured, then securing 2-RS-P-2A __ (2) __ required.
-
- A. 1) locally at the breaker
2) is
 - B. 1) locally at the breaker
2) is not
 - C. 1) when the CLS RESET PERMISSIVE annunciators are LIT
2) is
 - D. 1) when the CLS RESET PERMISSIVE annunciators are LIT
2) is not

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2021 NRC SPS SRO NRC Examination

Question: 18
(1 point)

Initial Conditions:

- Both units were operating at 100% power.
- A transient occurs causing Unit 2 SGs to become faulted inside containment.

Current Conditions (15 minutes):

- The team is currently in 2-ECA-2.1, UNCONTROLLED DEPRESSURIZATION OF ALL STEAM GENERATORS.
- The RO reports the following:
 - RCS cooldown rate is 105°F/hr.
 - All S/G NR levels are 5% and stable.
 - AFW flow is 200 gpm to each S/G.
 - Containment pressure is 20.5 psia and rising.
 - RCS pressure is 1908 psig and lowering.

Which of the following choices identifies the required actions, if any, in accordance with 2-ECA-2.1?

- A. Throttle AFW flow to each S/G to a minimum of 60 gpm.
- B. Throttle AFW flow to each S/G to a minimum of 100 gpm.
- C. Throttle TOTAL AFW to \leq 350 gpm.
- D. No action for AFW flow is required at this time.

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2021 NRC SPS SRO NRC Examination

Question: 19

(1 point)

Initial Conditions:

- Unit 1 was at 100% power.
- Control Rod C-7 (Shutdown Bank A) partially dropped to 110 steps.

Current Conditions (50 minutes later):

- The team is stabilizing power after required load reduction per Tech Spec 3.12.C, CONTROL ROD ASSEMBLIES.
- Indicated power levels are as follows:
 - PRNI N-41 = 75.5%.
 - PRNI N-42 = 70.5%.
 - PRNI N-43 = 65.0%.
 - PRNI N-44 = 77.2%.
 - A/B/C loop ΔT = 74%.

Which ONE of the following completes the statements below?

- 1) Based on current conditions, power level __ (1) __ satisfy the LCO requirement.
 - 2) If the partially dropped Control Rod (C-7) subsequently dropped fully (0 steps), a manual reactor trip __ (2) __ required.
- A. 1) does
2) will NOT be
- B. 1) does
2) will be
- C. 1) does not
2) will be
- D. 1) does not
2) will NOT be

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2021 NRC SPS SRO NRC Examination

Question: 20

(1 point)

Given the following:

- Unit 1 is at 100% power, steady state.
- PRZR LVL CH SEL switch selected to Position 3 (CH3 / CH2).
- The operator observes a prompt rise of 1-RC-LI-1461, PRZR PROT LEVEL CH 3, indication to 63%.
- The operator announces the failure and enters 0-AP-53.00, LOSS OF VITAL INSTRUMENTATION/CONTROLS.

Which ONE of the following answers the questions below.

- 1) Based on the conditions given, how will the DEMAND (Output) SIGNAL for PRZR Level controller, 1-CH-LC-1459G, and CHG Flow controller, 1-CH-FC-1122C respond?
 - 2) Per 0-AP-53.00, which PRZR level controller will need to be Unsaturated?
- A. 1) 1-CH-LC-1459G will LOWER, and 1-CH-FC-1122C will RISE.
2) 1-CH-LC-1459G.
- B. 1) 1-CH-LC-1459G will RISE, and 1-CH-FC-1122C will LOWER.
2) 1-CH-FC-1122C.
- C. 1) 1-CH-LC-1459G will LOWER, and 1-CH-FC-1122C will RISE.
2) 1-CH-FC-1122C.
- D. 1) 1-CH-LC-1459G will RISE, and 1-CH-FC-1122C will LOWER.
2) 1-CH-LC-1459G.

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2021 NRC SPS SRO NRC Examination

Question: 21

(1 point)

Given the following:

- Unit 2 is in Refueling Shutdown with core on-load in progress.
- Reactor power is 222 cps as indicated on the Audio SR Count Drawer.
- The following alarms and indications occur:
 - 2G-A3, NIS SOURCE RNG LOSS OF DET VOLT, is LIT.
 - Audio SR Count Drawer indication is 0 cps.
 - N-31 benchboard indication is off-scale low.
 - N-32 benchboard indication is approximately 200 cps.
- Audible count rate in Unit 2 Containment has been lost.
- The team has entered 1-AP-4.00, NUCLEAR INSTRUMENTATION MALFUNCTION.

Which ONE of the following completes both statements?

- 1) 1-AP-4.00 __ (1) __ contain steps for the operator to restore the audible count rate in containment without I&C support.
 - 2) IF the audible count rate in containment is subsequently restored using N-32, THEN refueling operations __ (2) __.
-
- A. 1) does NOT
2) may continue
 - B. 1) does NOT
2) are still NOT allowed
 - C. 1) does
2) are still NOT allowed
 - D. 1) does
2) may continue

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2021 NRC SPS SRO NRC Examination

Question: 22

(1 point)

The following sequence of events occurred on Unit 1:

- Time = 1400, Reactor startup in progress with Source Range at 5×10^3 cps, and stable.
- Time = 1401, IR N-35 has failed. Reactor Operator reports N-35 reading 1×10^{-8} amps. IR N-36 reads 1×10^{-11} amps.
- Time = 1402, The Startup is suspended.
- The team has entered 1-AP-4.00, NUCLEAR INSTRUMENTATION MALFUNCTION.

Based on the given sequence of events, which ONE of the following completes the statements below?

1) In accordance with 1-AP-4.00, Attachment 2, IR Failure, the minimum action that needs to be done in order to continue with the startup is to __ (1) __.

2) At 1402 the Source Range instruments are __ (2) __.

- A. 1) restore N-35 to operable status
 2) de-energized
- B. 1) place N-35 LEVEL TRIP switch in BYPASS
 2) energized
- C. 1) restore N-35 to operable status
 2) energized
- D. 1) place N-35 LEVEL TRIP switch in BYPASS
 2) de-energized

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2021 NRC SPS SRO NRC Examination

Question: 23

(1 point)

Given the following:

- Both units are at 100% power.
- Annunciator 1-RMA-D6, VENT STACK #2 PART ALERT/HI, is alarming.
- The High LED indicator is lit for 1-VG-RI-131B, VENT #2 NORMAL GAS INDICATOR.
- The team is performing 0-AP-5.20, RADIATION MONITOR SYSTEM VENTILATION VENT HIGH ALARM.

Which ONE of the following completes the questions below?

- 1) In accordance with 0-AP-5.20, what action will the team direct to identify the leak location?
- 2) If the inlet flange of 1-GW-RV-111A, SAMPLE COMPRESSOR 1-GW-C-4A SUCTION RELIEF VALVE, is subsequently identified as the leak location, where must the team send a field operator to isolate the leak?

REFERENCE PROVIDED

- A.
 - 1) Have HP sample the area for Iodine and Particulates.
 - 2) Fuel Building.
- B.
 - 1) Align the affected area to Filtered Exhaust.
 - 2) Fuel Building.
- C.
 - 1) Have HP sample the area for Iodine and Particulates.
 - 2) PG Pump House.
- D.
 - 1) Align the affected area to Filtered Exhaust.
 - 2) PG Pump House.

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2021 NRC SPS SRO NRC Examination

Question: 24
(1 point)

A Fuel Shuffle is being performed in the Spent Fuel pool, and a Fuel Assembly has just been seated. The following annunciators alarmed and were determined to be valid, i.e., not an instrument failure:

- 0-RM-C3, FUEL PIT BRDG ALERT/FAILURE.
- 0-RM-D3, 1-RM-RI-153 HIGH.

Spent fuel pool is stable/normal and no other abnormalities were observed or noted.

Which ONE of the following correctly completes both statements?

- 1) In accordance with 0-RM-C3 and D-3, the Fuel Building __ (1) __ required to be immediately evacuated.
 - 2) The Fuel Pit Bridge radiation detector is a/an __ (2) __.
-
- A. 1) is NOT
2) ion chamber
 - B. 1) is NOT
2) geiger mueller
 - C. 1) is
2) ion chamber
 - D. 1) is
2) geiger mueller

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2021 NRC SPS SRO NRC Examination

Question: 25

(1 point)

Given the following:

- An operator reports a fire at the Unit 1 “A” Main Transformer.
- The team is entering 0-AP-48.00, Fire Protection – Operations Response.

Which ONE of the following answers both questions?

- 1) What is the correct summary of the Immediate Actions per 0-AP-48.00?
 - 2) How is Unit 1 “A” Main Transformer deluge actuated?
- A. 1) Alarm, announce, alarm, announce.
 2) Manually from the MCR.
 - B. 1) Alarm, announce, announce, alarm, announce.
 2) Manually from the MCR.
 - C. 1) Alarm, announce, alarm, announce.
 2) Automatically.
 - D. 1) Alarm, announce, announce, alarm, announce.
 2) Automatically.

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2021 NRC SPS SRO NRC Examination

Question: 26

(1 point)

Unit 1 is shutting down from 100% power per 1-GOP-2.1, UNIT SHUTDOWN POWER DECREASE FROM ALLOWABLE POWER TO < 30% POWER.

Which ONE of the following completes the statements below?

- 1) The earliest time that Chemistry is required to be notified to sample the RCS for Dose Equivalent I-131 is when power is lowered to __ (1) __.
 - 2) Per Tech Spec 3.1.D, RCS Specific Activity, the primary coolant shall be limited to \leq __ (2) __ Dose Equivalent I-131.
-
- A.
 - 1) 85%
 - 2) 1.0 $\mu\text{Ci/gm}$
 - B.
 - 1) 70%
 - 2) 0.5 $\mu\text{Ci/gm}$
 - C.
 - 1) 70%
 - 2) 1.0 $\mu\text{Ci/gm}$
 - D.
 - 1) 85%
 - 2) 0.5 $\mu\text{Ci/gm}$

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2021 NRC SPS SRO NRC Examination

Question: 27

(1 point)

Initial Conditions:

- Unit 1 experienced a Loss of Offsite Power from 100% due to a tornado damaging the 34.5KV Buses and the Unit 1 Generator output breakers.

Current Conditions: (1 hour later)

- The team is performing 1-ES-0.2, NATURAL CIRCULATION COOLDOWN.
- Letdown is in service.
- A controlled RCS Cooldown has been commenced.
- Hi Steam Flow Safety Injection has been BLOCKED.
- The team is preparing to depressurize the RCS to 1950 psig.

Which ONE of the following completes the statement below in accordance with 1-ES-0.2?

Depressurization to 1950 psig will be performed using __ (1) __, and the remainder of the cooldown to CSD will be at a rate below a maximum of __ (2) __.

- A. 1) Auxiliary Spray
2) 25°F/hr
- B. 1) One Pressurizer PORV
2) 10°F/hr
- C. 1) Auxiliary Spray
2) 10°F/hr
- D. 1) One Pressurizer PORV
2) 25°F/hr

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2021 NRC SPS SRO NRC Examination

Question: 28

(1 point)

Initial Conditions:

- Unit 1 Reactor startup was in progress following a Forced outage for RCP Corrective maintenance.
- Power was at 1×10^{-8} amps and holding for Critical Rod data.
- The crew has entered 1-AP-9.00, RCP ABNORMAL CONDITIONS, due to rising temp. and vibration trends, and has suspended any further power increase.

Current Conditions (10 minutes):

- The RO has plotted the most limiting 1-RC-P-1A parameters over the last 10 minutes and are as follows:

Parameter	Initial Reading	Current Reading (10 min)
Lower Thrust bearing	110 °F	145 °F
RCP Shaft vibration	9 mils	15.5 mils

Which ONE of the following completes the statements below?

- 1) Based on these trends, and assuming the trends continue at the same rate, the first parameter that will require the pump to be shutdown is the __ (1) __.
 - 2) In accordance with the annunciator procedures and 1-AP-9.00, at this power level, a manual reactor trip __ (2) __ required before the RCP is shutdown.
- A. 1) Lower Thrust bearing
2) is
- B. 1) Lower Thrust bearing
2) is NOT
- C. 1) RCP Shaft vibration
2) is NOT
- D. 1) RCP Shaft vibration
2) is

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 29

(1 point)

Given the following:

- Unit 1 tripped from 80% power, due to an overcurrent trip of “B” RCP.
- The Unit is stabilizing at HSD and the team is in 1-ES-0.1, REACTOR TRIP RESPONSE.
- The team is at Step 1, Check RCS Temperature Control, with the following indications:
 - “A” Loop Tave = 547.8°F.
 - “B” Loop Tave = 536.6°F.
 - “C” Loop Tave = 546.9°F.

Based on the above conditions, which ONE of the following completes the statements below?

- 1) Steam dumps __ (1) __ be throttled open.
 - 2) At ES-0.1, Step 1, Steam Dump Control will be in the __ (2) __ mode.
-
- A.
 - 1) will not
 - 2) Steam Pressure
 - B.
 - 1) will
 - 2) T_{AVE}
 - C.
 - 1) will
 - 2) Steam Pressure
 - D.
 - 1) will not
 - 2) T_{AVE}

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2021 NRC SPS SRO NRC Examination

Question: 30

(1 point)

Unit 1 was operating at 100% operation when a failure occurred causing Letdown temperature to rise.

Which of the following completes the statement below?

Once Letdown temperature reaches a setpoint of __(1)__ the Letdown divert valve, 1-CH-TCV-1143 will automatically divert to the __(2)__.

- A. 1) 145 °F
2) Volume Control Tank
- B. 1) 145 °F
2) Primary Drains Tank
- C. 1) 130 °F
2) Volume Control Tank
- D. 1) 130 °F
2) Primary Drains Tank

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2021 NRC SPS SRO NRC Examination

Question: 31
(1 point)

Initial Conditions:

- Unit 1 is at Cold Shutdown (CSD) in Mid-Loop operations.
- "A" RHR Pump is in service.

The following sequence of events occurred:

- Annunciator 1B-A3, CTMT SUMP HI LVL, is locked in.
- The STA reports RCS Level is now in the UNACCEPTABLE region, based on RCS Standpipe level indication.
- "A" RHR Pump amps are stable.

Which ONE of the following completes the following statement?

Based on the current conditions, the team will enter __ (1) __, which __ (2) __ require securing the RHR pump.

- A. 1) 1-AP-16.01, SHUTDOWN LOCA
2) will NOT
- B. 1) 1-AP-27.00, LOSS OF DECAY HEAT REMOVAL CAPABILITY
2) will
- C. 1) 1-AP-16.01, SHUTDOWN LOCA
2) will
- D. 1) 1-AP-27.00, LOSS OF DECAY HEAT REMOVAL CAPABILITY
2) will NOT

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 32
(1 point)

ECA-0.0, LOSS OF ALL AC POWER, Step 24, directs the operator to:

“Depressurize all Intact SGs to 300 psig”

Which ONE of the following describes the reason for stopping the pressure reduction at 300 psig?

- A. Prevent losing pressurizer level.
- B. Prevent damage to RCP seal package.
- C. Prevent voiding in the Reactor Vessel upper head.
- D. Prevent SI Accumulator Nitrogen injection to the RCS.

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2021 NRC SPS SRO NRC Examination

Question: 33

(1 point)

The following sequence of events have just occurred:

- Unit 1 was stable at 100% power.
- Pressurizer Pressure is 2210 psig and lowering.
- The RO reports the following:
 - 1C-E7, PRZR RELIEF TK HI TEMP, has just come in.
 - 1C-F7, PRZR RELIEF TK HI PRESS, has just come in.
 - PRT Level is 81% and slowly rising.
 - There is indication of Pressurizer PORV leakby.

Which ONE of the following completes both statements?

- 1) The temperature of the fluid entering the PRT is expected to be __(1)__.
2) In accordance with 1-OP-RC-011, PRESSURIZER RELIEF TANK OPERATIONS, the team will drain the PRT to the __(2)__.
- A. 1) 193°F
2) Primary Drains Tank
- B. 1) 228°F
2) Primary Drains Transfer Tank
- C. 1) 228°F
2) Primary Drains Tank
- D. 1) 193°F
2) Primary Drains Transfer Tank

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 34

(1 point)

Given the following:

- Both Units are operating at 100%.
- 1-AP-15.00, LOSS OF COMPONENT COOLING, has just been entered.

Which ONE of the following completes both statements?

- 1) An immediate manual reactor trip __ (1) __ required.
- 2) When implementing 1-AP-15.00, __ (2) __ will be performed first.

- A. 1) is NOT
2) Establish Alternate Letdown
- B. 1) is NOT
2) Crosstie Containment IA to Turbine Building IA
- C. 1) is
2) Establish Alternate Letdown
- D. 1) is
2) Crosstie Containment IA to Turbine Building IA

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2021 NRC SPS SRO NRC Examination

Question: 35

(1 point)

Initial Conditions:

- Unit 1 experienced a spurious Safety Injection from 100% power.
- The team has terminated SI in accordance with in 1-ES-1.1, SI Termination.

Current Conditions:

- The team is in 1-GOP-1.1 and preparing to draw a bubble in the Pressurizer.
- The following indications exist for the Pressurizer:
 - All PRZR LEVEL PROTECT channels are 100%.
 - PRZR Temperatures is 633°F.
 - The Pressurizer has been filled solid, and pressure is at 2270 psig and stable.
- Pressurizer heater switches are as follows:
 - "B" and "C" Banks are ON (energized).
 - "A", "D", and "E" banks are in AUTO (de-energized).

Which ONE of the following answers both questions?

- 1) Based on Current Conditions, what is the correct action to take with the Pressurizer Heaters?
- 2) If the team lowers Charging flow below Letdown flow, how will Pressurizer pressure respond?

- A.
 - 1) Place "B" and "C" Banks in AUTO
 - 2) Pressure will not change.
- B.
 - 1) Place "B" and "C" Banks in AUTO
 - 2) Pressure will lower.
- C.
 - 1) Place "A", "D" and "E" Banks in ON
 - 2) Pressure will lower.
- D.
 - 1) Place "A", "D" and "E" Banks in ON
 - 2) Pressure will not change.

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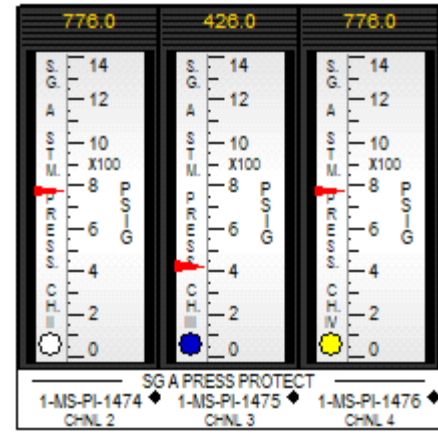
2021 NRC SPS SRO NRC Examination

Question: 36

(1 point)

Initial Conditions:

- Unit 1 is operating at 100%.
- All Steam Flow and Feed Flow instruments are set to BLUE.
- Steam pressure channel 1-MS-PI-1475 Fails as indicated.
- All required actions of 0-AP-53.00, LOSS OF VITAL INSTRUMENTATION/CONTROLS, have been taken.



Assuming no operator actions which ONE of the following completes the statements below?

- 1) Per 0-AP-53.00, the __ (1) __ channel was selected as controlling channel for Steam Flow.
- 2) If an I&C technician subsequently inadvertently de-energizes 1-MS-PI-1474 the reactor __ (2) __ immediately trip.

- A. 1) yellow
2) will
- B. 1) white
2) will NOT
- C. 1) yellow
2) will NOT
- D. 1) white
2) will

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 37
(1 point)

Initial Conditions:

- Unit 1 tripped from 100% due to a loss of “A” DC Bus.
- The 1A and 1-1 DC breaker panel loads have been stripped.

Current Conditions:

- The cause for the loss of the Unit 1 “A” DC Bus has been corrected.
- The DC Bus is now being energized from the Battery Chargers.

Which ONE of the following identifies the reason that 1-AP-10.06, LOSS OF DC POWER, requires using Attachment 5, SUGGESTED SEQUENCE OF LOADING DC BUSES 1A AND 1-1, to restore power?

- A. To prevent actuation of safety injection.
- B. To prevent overloading the Battery Chargers.
- C. To prioritize restoration of letdown.
- D. To prioritize Pressurizer PORV-1455C restoration.

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2021 NRC SPS SRO NRC Examination

Question: 38

(1 point)

Given the following:

- Unit 1 is at 100% power operation.
- The following indications occur simultaneously:
 - Annunciator 1K-E4, 480V BKR AUTO TRIP alarms.
 - The RO reports that green and amber lights for CARF 1-VS-F-1B is Lit, and CARF 1-VS-F-1A, and 1-VS-F-1C remain operating.
- The crew enters 1-AP-25.00, Loss of Containment Air cooling.

Based on these indications which ONE of the following completes both statements?

- 1) Following the loss of CARF 1-VS-F-1B, 1-CC-TV-110B, CARF B CLR CC RETURN TV, ___(1)___ automatically CLOSE.
 - 2) Per 1-AP-25.00, Loss of Containment Air cooling, Containment hydrogen samples ___(2)___ required.
- A. 1) will NOT
2) are
- B. 1) will
2) are NOT
- C. 1) will
2) are
- D. 1) will NOT
2) are NOT

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2021 NRC SPS SRO NRC Examination

Question: 39

(1 point)

Unit 1 is at 100% power.

Which ONE of the following completes the following statements about the Unit 1 Containment Air Recirc Fans (CARFs)?

- 1) The Power supply breaker for the "A" CARF is __ (1) __.
 - 2) If a Large Break LOCA occurs, the __ (2) __ CARF will remain running.
-
- A.
 - 1) 1-EP-BKR-14H-8
 - 2) "B"
 - B.
 - 1) 1-EP-BKR-14H-8
 - 2) "C"
 - C.
 - 1) 1-EP-BKR-15H8
 - 2) "B"
 - D.
 - 1) 1-EP-BKR-15H8
 - 2) "C"

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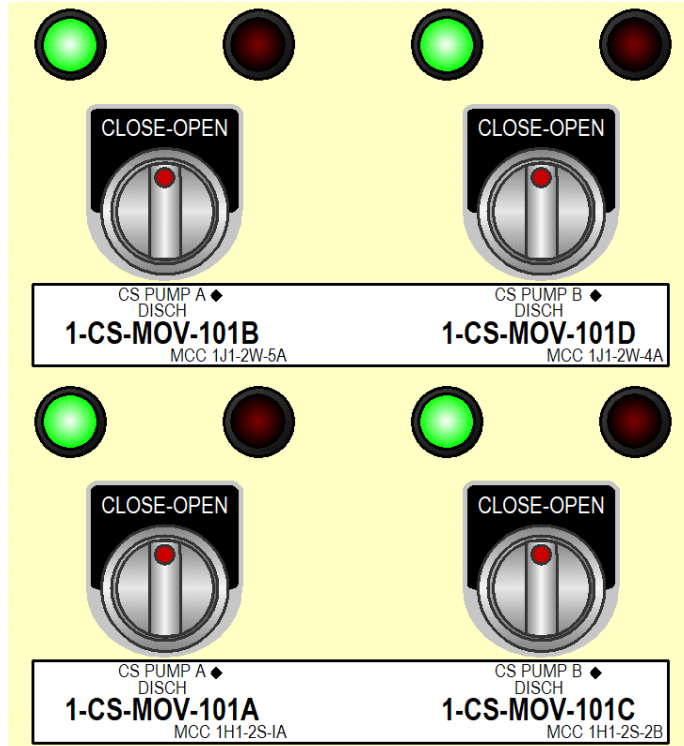
2021 NRC SPS SRO NRC Examination

Question: 40

(1 point)

Which ONE of the following answers both questions?

- 1) Which Discharge MOVs have an interlock with the supply breaker position for 1-CS-P-1A, Containment Spray pump? (i.e. DISCONNECT, TEST, CONNECT)
- 2) When is this interlock in effect?
 - A. 1) 1-CS-MOV-101A and B.
2) At all times.
 - B. 1) 1-CS-MOV-101A and C.
2) At all times.
 - C. 1) 1-CS-MOV-101A and C.
2) With Hi Hi CLS actuated.
 - D. 1) 1-CS-MOV-101A and B.
2) With Hi Hi CLS actuated.



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2021 NRC SPS SRO NRC Examination

Question: 41

(1 point)

Given the following:

- Unit 1 was manually tripped from 100% due to a non-recoverable low vacuum condition.
- Condenser Vacuum is currently 24 inches Hg and is lowering at 0.2 inches Hg/minute.
- The crew has just entered 1-ES-0.1, REACTOR TRIP RESPONSE.

Which ONE of the following answers the questions below?

- 1) What temperature will Tave stabilize at with NO operator action, and assuming NO change in present conditions?
 - 2) Where is the SG PORV EMERG CLOSE SW located?
-
- A.
 - 1) 547°F.
 - 2) Unit 1 Cable Vault room.
 - B.
 - 1) 551°F.
 - 2) Unit 1 Aux Shutdown panel.
 - C.
 - 1) 547°F.
 - 2) Unit 1 Aux Shutdown panel.
 - D.
 - 1) 551°F.
 - 2) Unit 1 Cable Vault room.

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2021 NRC SPS SRO NRC Examination

Question: 42

(1 point)

Given the following:

- Unit 1 is shutting down per 1-GOP-2.1, UNIT SHUTDOWN, FROM ALLOWABLE POWER TO LESS THAN 30%.
- The crew is at the step to shutdown the first Main Feed Pump, 1-FW-P-1A.
- FW PP RECIRC FCV, 1-FW-FCV-150A is CLOSED and in AUTO.

Which ONE of the following answers the questions below?

- 1) Per 1-GOP-2.1, what action should be taken with respect to 1-FW-FCV-150A, Feed Pump Recirc FCV immediately prior to closing the Feed Pump Discharge MOVs?
 - 2) What is the reason for the action in Part 1?
- A. 1) Check FW PP RECIRC FCV in AUTO.
2) Prevent MFP overpressurization.
 - B. 1) Place FW PP RECIRC FCV in OPEN.
2) Prevent MFP overpressurization.
 - C. 1) Place FW PP RECIRC FCV in OPEN.
2) Prevent MFP overheating.
 - D. 1) Check FW PP RECIRC FCV in AUTO.
2) Prevent MFP overheating.

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2021 NRC SPS SRO NRC Examination

Question: 43
(1 point)

Which Main Feedwater system event will require performing the immediate actions of 1-E-0, REACTOR TRIP OR SAFETY INJECTION?

- A. FW PP 1A Recirc valve, 1-FW-FCV-150A fails open at 100% power.
- B. Overcurrent fault on the Main Feed Pump A inboard motor at 83% power.
- C. Sensing line to the Main Feed Pump A Lube Oil Pressure switches completely ruptures at 75% power.
- D. Feed Pump A Discharge MOV, 1-FW-MOV-150A fails closed at 75% power.

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2021 NRC SPS SRO NRC Examination

Question: 44
(1 point)

Unit 1 is currently at HSD and is continuing to shutdown and cooldown the plant per 1-GOP-2.4, UNIT COOLDOWN, HSD TO 351°F.

As the plant is cooling down and depressurizing which ONE of the following must be done to prevent a loss of Auxiliary Feedwater due to inadequate NPSH?

- A. The auto-open signal for one AFW MOV on two SGs must be defeated before S/G pressure lowers below 600 psig.
- B. The auto-open signal for the AFW MOVs on one SG must be defeated before S/G pressure lowers below 600 psig.
- C. The auto-open signal for the AFW MOVs on one SG must be defeated before RCS Tave lowers below 535°F.
- D. The auto-open signal for one AFW MOV on two SGs must be defeated before RCS Tave lowers below 535°F.

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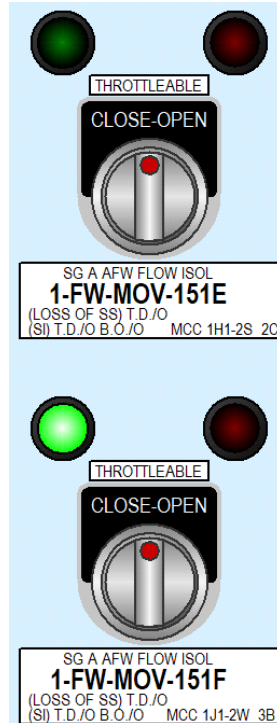
2021 NRC SPS SRO NRC Examination

Question: 45

(1 point)

Given the following:

- Unit 1 reactor just tripped from 100% power.
- The team is performing Attachment 5 of 1-ES-0.1, TRANSIENT AFW FLOW CONTROL.
- While operating the control switch for 1-FW-MOV-151E to CLOSE, its light indication extinguished (as shown).
- 1-FW-MOV-151F was operated and indicates as shown:



Which ONE of the following answers the questions below?

- 1) Assuming the 1-FW-MOV-151E is at 90% open, what is the approximate Aux Feedwater Flow to the "A" S/G?
 - 2) What is the minimum number of manual valves, in accordance with 1-ES-0.1 Attachment 5, that must be operated to isolate flow through 1-FW-MOV-151E?
- A. 1) 350 gpm.
2) Three.
- B. 1) 175 gpm.
2) Three.
- C. 1) 175 gpm.
2) One.
- D. 1) 350 gpm.
2) One.

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2021 NRC SPS SRO NRC Examination

Question: 46

(1 point)

Given the following:

- Unit 1 and Unit 2 is operating at 100% power.
- A severe electrical storm is in progress.
- Both units have the “B” and “C” Condensate pumps running.
- Unit 2 experiences a spurious SI.
- Station Service Bus 1A NORM SUP BKR 15A2 spuriously trips (no Over Current trip).

After 45 seconds has elapsed, which ONE of the following completes the statements below?

- 1) IF the operator takes 1-CN-P-1A Condensate pump handswitch to START, the pump _(1) start.
- 2) IF the operator takes 2-CN-P-1A Condensate pump handswitch to START, the pump _(2) start.

	<u>Unit 1, 1-CN-P-1A</u>	<u>Unit 2, 2-CN-P-1A</u>
A.	will not	will not
B.	will	will
C.	will not	will
D.	will	will not

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2021 NRC SPS SRO NRC Examination

Question: 47

(1 point)

Given the following:

- Unit 1 was at 100%.
- A Loss of Unit 1 B DC Bus occurred.
- The team is performing the immediate actions of 1-E-0, REACTOR TRIP OR SAFETY INJECTION.

Based on the event, which ONE of the following completes both statements?

- 1) The Main Generator Output breakers __ (1) __ automatically open.
 - 2) After the Generator Output breakers are open, __ (2) __ Reactor Coolant Pump(s) will be lost.
- A. 1) will
2) both 1B and 1C
- B. 1) will not
2) only 1B
- C. 1) will not
2) both 1B and 1C
- D. 1) will
2) only 1B

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2021 NRC SPS SRO NRC Examination

Question: 48

(1 point)

Given the following:

- Unit 2 is at 25% power.
- A loss of the Unit 2 “A” DC bus occurs.
- A loss of offsite power also occurs.

Which ONE of the following completes the statements below?

- 1) The #2 EDG ____ (1) ____ automatically load onto the 2H bus.
 - 2) If an automatic turbine trip occurred, Main Generator excitation ____ (2) ____ remain energized with no operator action.
- A. 1) will NOT
2) will NOT
- B. 1) will
2) will NOT
- C. 1) will NOT
2) will
- D. 1) will
2) will

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2021 NRC SPS SRO NRC Examination

Question: 49

(1 point)

Given the following:

- Unit 1 is at 100%.
- Annunciator 1C-F6, EDG 1 TRBL, has just been received.
- The field operator reports the following from the #1 EDG Room:
 - The LOW AIR PRESSURE light is LIT at the local control panel.
 - Bank 1 Air pressure is 190 psig and stable.
 - Bank 2 Air pressure is 160 psig and stable.
 - The supply breaker for the #2 Air Compressor motor for EDG #1 is tripped.

Based on the event, which ONE of the following completes both statements?

- 1) Bank 2 starting air __ (1) __ sufficient to start EDG #1 if an auto start signal occurred.
- 2) To restore Bank 2 starting air, the field operator can __ (2) __.

- A. 1) is
2) open the cross connect valve between air banks
- B. 1) is not
2) immediately start the Lister diesel
- C. 1) is not
2) open the cross connect valve between air banks
- D. 1) is
2) immediately start the Lister diesel

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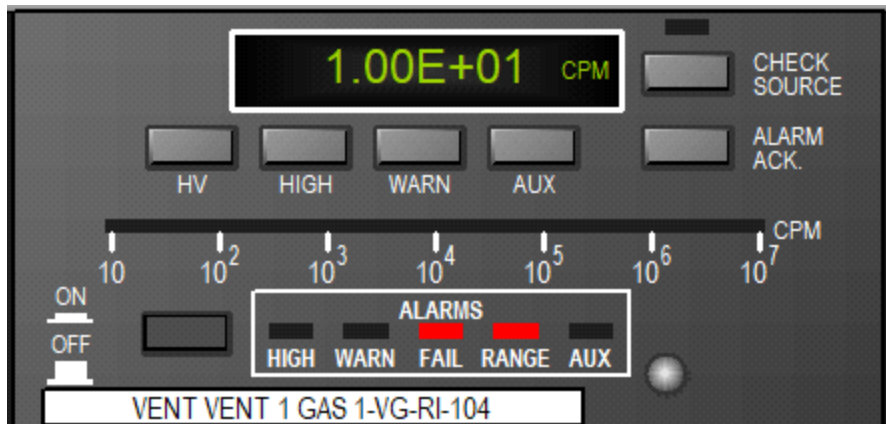
2021 NRC SPS SRO NRC Examination

Question: 50

(1 point)

Given the following:

- Both Units are operating at 100%.
- Normal Ventilation lineup.
- Annunciator 0-RM-L4, VENT VENT 1 GAS ALERT/FAILURE has just alarmed.
- Indications for 1-VG-RI-104 are as shown below.



Which ONE of the following completes both statements?

- 1) The effluent release path that is monitored by this radiation monitor ___(1)___ be automatically isolated.
 - 2) What condition could cause the indications shown?
- A. 1) will
2) No pulses provided by the detector for five minutes.
- B. 1) will
2) Detector saturation.
- C. 1) will not
2) Detector saturation.
- D. 1) will not
2) No pulses provided by the detector for five minutes.

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2021 NRC SPS SRO NRC Examination

Question: 51

(1 point)

Given the following:

- A Large Break LOCA occurred on Unit 1 from 100% power.
- CLS Hi Hi Train A and B have just initiated.
- RWST Level is 96.5% and lowering.

Which ONE of the following choices is correct regarding the Unit 1 Recirc Spray Service Water Radiation Monitoring subsystem?

- 1) The 60 second time delay for auto-starting the associated Rad Monitor Sample Pumps begins __ (1) __.
 - 2) The Rad Monitor Sample Pumps will pump the sample streams through Process Rad Monitors located in __ (2) __ Safeguards basement.
-
- A. 1) when RWST level reaches 60%
2) Unit 2
 - B. 1) immediately after CLS HI HI
2) Unit 1
 - C. 1) when RWST level reaches 60%
2) Unit 1
 - D. 1) immediately after CLS HI HI
2) Unit 2

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2021 NRC SPS SRO NRC Examination

Question: 52

(1 point)

Given the following:

- Unit 1 has experienced a large break LOCA from 100% power.

Which ONE of the following components will have their supporting Service Water equipment cooling components immediately reposition from the equipment's original position, when a Hi – Hi CLS signal occurs?

- A. Recirculation Spray heat exchangers.
- B. Component Cooling Water heat exchangers.
- C. Bearing Cooling Water heat exchangers.
- D. Charging Pump oil coolers.

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2021 NRC SPS SRO NRC Examination

Question: 53

(1 point)

Given the following:

- Both units were at 100% power.
- A complete loss of offsite power to both units occurred.
- The team is evaluating the power availability of the Recirc Spray Service Water (RSSW) MOVs 1-SW-MOV-103A/B/C/D.

Which ONE of the following completes the statements below?

- 1) The 1H Bus supplies power to __ (1) __.
 - 2) The 480v J Bus ABT __ (2) __ energize the remaining RSSW MOVs.
-
- A. 1) 1-SW-MOV-103A and B
2) will not
 - B. 1) 1-SW-MOV-103A and D
2) will not
 - C. 1) 1-SW-MOV-103A and D
2) will
 - D. 1) 1-SW-MOV-103A and B
2) will

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2021 NRC SPS SRO NRC Examination

Question: 54

(1 point)

Unit 1 is starting up following a refueling outage, Unit 2 is at 100%.

Initial Conditions:

- Unit 1 RCS Heatup in accordance with 1-GOP-1.7, UNIT STARTUP, RCS HEATUP FROM AMBIENT TO HSD.
- 'A' S/G PORV is operating in AUTO to control RCS temperature at HSD.
- A sustained loss of the Semi-Vital Bus occurs.

Current Conditions (35 minutes later):

- Indications lost in the Control Room include the following:
 - PI-IA-100, Instrument Air Rcvr Disch Press.
 - PI-IA-101, Containment Instrument Air Rcvr Disch Press.
 - PI-SA-100, Service Air Rcvr Disch Press.
- The crew has entered 1-AP-10.05, Loss of Semi-Vital Bus.

Which ONE of the following completes both statements regarding the impact in accordance with 1-AP-10.05?

- 1) From the time that the Semi – Vital bus was lost, S/G PORVs __ (1) __ continue to control in AUTO for approximately 30 minutes.
 - 2) The Plant Computer System (PCS) __ (2) __ an alternate monitoring method for Instrument Air and Service Air pressure.
- A. 1) will NOT
2) is NOT
- B. 1) will NOT
2) is
- C. 1) will
2) is
- D. 1) will
2) is NOT

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2021 NRC SPS SRO NRC Examination

Question: 55
(1 point)

Initial Conditions:

- Unit 1 was operating at 100% power.
- The RO reported Pressurizer level was 45% and lowering rapidly.
- The RO completed Immediate Actions of 1-AP-16.00, Excessive RCS Leakage.
- The Crew subsequently tripped the reactor and initiated safety injection.

Current Conditions:

- RCS pressure is 1320 psig and stable.
- Containment pressure is 20.5 psia and stable.
- The following valves are OPEN:
 - 1-SV-TV-102, AE DISCH TO CTMT TB TV.
 - 1-IA-TV-100, CTMT COMP DISCH TV.
 - 1-CC-TV-140A, RCP THERM BARR CC RTN I/S TV.
 - 1-IA-TV-101B, IA COMPR CTMT SUCT O/S TV.

Which ONE of the following sets of Containment Isolation valves should currently be CLOSED?

- A. 1-IA-TV-100 and 1-IA-TV-101B.
- B. 1-SV-TV-102 and 1-CC-TV-140A.
- C. 1-SV-TV-102 and 1-IA-TV-101B.
- D. 1-IA-TV-100 and 1-CC-TV-140A.

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2021 NRC SPS SRO NRC Examination

Question: 56

(1 point)

A Reactor startup is in progress on Unit 1.

- Critical Rod height data is in progress.
- CRDM Fan 1-VS-F-60A has tripped.
- The crew enters 1-AP-25.00, LOSS OF CONTAINMENT COOLING.
- An operator has been dispatched to check the local breaker for 1-VS-F-60A.
- The team has started standby CRDM fan 1-VS-F-60D.

Which ONE of the following completes the following statements in accordance with 1-AP-25.00?

1) Rod motion limits __ (1) __ required.

2) A reactor shutdown is required if __ (2) __.

- A. 1) are
2) a CRDM fan can NOT be started in more than one duct
- B. 1) are NOT
2) CRDM fan outlet temperature reaches 210°F
- C. 1) are NOT
2) a CRDM fan can NOT be started in more than one duct
- D. 1) are
2) CRDM fan outlet temperature reaches 210°F

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2021 NRC SPS SRO NRC Examination

Question: 57

(1 point)

Given the following:

- Unit 1 is at Cold Shutdown (CSD).
- The Overpressure Mitigating System (OPMS) is in service.
- 1-RC-PI-1403, RC PRESS NARROW RANGE, just failed to 800 psig.

Which ONE of the following completes both statements?

- 1) Pressurizer PORV __(1)__ will be open.
- 2) Placing the PORV control switch to the CLOSE position __(2)__ close the affected PORV.

- A. 1) 1-RC-PCV-1455C
2) will
- B. 1) 1-RC-PCV-1456
2) will NOT
- C. 1) 1-RC-PCV-1456
2) will
- D. 1) 1-RC-PCV-1455C
2) will NOT

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 58
(1 point)

Which ONE (1) of the following identifies (in the order presented) the normal power (480V) supplies for the following Pressurizer Heater Groups?

Group A (Backup) _____, Group B (Backup) _____, Group C (Proportional) _____.

	Group A (BU)	Group B (BU)	Group C (Prop)
A.	1H1	1A1	1B1
B.	1J1	1B1	1A1
C.	1H1	1B1	1A1
D.	1J1	1A1	1B1

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 59
(1 point)

Initial Conditions:

- Unit 1 tripped from 100%.
- The unit was stabilized at Hot Shutdown (HSD).
- The team was performing Step 2 of 1-ES-0.1, REACTOR TRIP RESPONSE.

Current Conditions:

- A Small Break Loss Of Coolant Accident (SBLOCA) occurred on Unit 1.
- The team transitioned back to 1-E-0, REACTOR TRIP OR SAFETY INJECTION.
- Multiple failures in the High Head Safety Injection (HHSI) system are resulting in a constant rise in Core Exit Thermocouple (CETC) indication.
- All RCPs have been secured.
- The Assistant RO is performing Attachment 2 of 1-E-0, CHECKING SI VALVE ALIGNMENT, to correct the degraded HHSI flow.

Which ONE of the following completes both statements?

- 1) Immediately after CETCs reach __ (1) __, an ORANGE path Status Tree will be MET for 1-FR-C.2, RESPONSE TO DEGRADED CORE COOLING.
 - 2) For Current Conditions, IF an ORANGE path is entered, crew performance of Attachment 2 __ (2) __.
- A. 1) 1200°F 2) must be suspended
- B. 1) 700°F 2) is required in parallel with performing the ORANGE path procedure
- C. 1) 700°F 2) must be suspended
- D. 1) 1200°F 2) is required in parallel with performing the ORANGE path procedure

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 60
(1 point)

Initial Conditions:

- Unit 1 is operating at 100%.
- Ch3 (P1446) is selected for Pimp.
- Pimp Ch 3 (P1446) Fails low to 40%.
- The Crew enters 0-AP-53.00, LOSS OF VITAL INSTRUMENTATION/CONTROLS.

Current Conditions:

- The crew has completed actions per 0-AP-53.00, Pimp Ch 4 is now selected.
- A Turbine control malfunction causes the turbine and reactor to trip.

Which ONE of the following completes both statements?

- 1) Immediately after Pimp Ch 3 failed to 40% Steam Dump Demand Indicator on the Vertical Board was reading __(1)__.
- 2) Following the reactor and turbine trip the Steam dumps will modulate to control Tave at __(2)__.

- | | | |
|----|---------|-----------|
| A. | 1) 0% | 2) 557 °F |
| B. | 1) 100% | 2) 547 °F |
| C. | 1) 100% | 2) 557 °F |
| D. | 1) 0% | 2) 547 °F |

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 61

(1 point)

Given the following:

- Unit 1 is performing a Main Turbine startup per 1-OP-TM-001, TURBINE – GENERATOR STARTUP TO 20% - 25% TURBINE POWER, Section 5.3, LATCHING THE TURBINE.
- At step 5.3.7, the operator depressed and held the LATCH pushbutton.
 - Annunciator 1G-A5, VAC TRIP LATCH ACTUATED, is LIT.
 - The LATCH pushbutton is now backlit.
 - The operator is still depressing the LATCH pushbutton.

Which ONE of the following completes both statements AFTER the operator releases the LATCH pushbutton?

1) The Intercept valves __(1)__ be closed.

2) Annunciator 1G-A5 will be __(2)__.

A. 1) will NOT
2) NOT LIT

B. 1) will
2) NOT LIT

C. 1) will NOT
2) LIT

D. 1) will
2) LIT

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 62

(1 point)

Initial Conditions:

- Unit 1 is at 100% power.
- The following indications are observed:
 - Condenser vacuum is 27.3 in Hg and worsening.
 - All waterbox outlet temperatures are 86°F and stable.
 - Gen MW is 890.6 and lowering.
- Both Turbine Building operators are investigating.

Current Conditions (7 minutes later):

- The team is performing 1-AP-14.00, LOSS OF MAIN CONDENSER VACUUM.
- BOP reports:
 - Condenser Vacuum is now 26.5 in Hg, and worsening.
 - Water box temperatures remain at 86°F and stable.
 - No alarms are lit.

Which ONE of the following completes both statements in accordance with 1-AP-14.00, Loss of Main Condenser Vacuum?

- 1) For the current conditions, the Condenser Hoggers are __ (1) __ be placed in service.
 - 2) Per 1-AP-14.00, if Condenser vacuum lowers to __ (2) __ the Turbine must be immediately tripped.
-
- A. 1) not required
2) 25 in Hg
 - B. 1) required
2) 25 in Hg
 - C. 1) not required
2) 22.5 in Hg
 - D. 1) required
2) 22.5 in Hg

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 63

(1 point)

Given the following:

- Unit 1 is at 100% power.
- The “B” train of 2nd, 3rd and 4th Point Feedwater Heaters must be bypassed for maintenance.

Which ONE of the following completes both statements in accordance with 1-MOP-FW-006, REMOVAL FROM AND RETURN TO SERVICE OF LP FW HEATERS?

- 1) Reactor power must be reduced to a maximum of __ (1) __.
 - 2) Bypassing only one train of 2nd, 3rd and 4th Point Feedwater Heaters __ (2) __ permitted.
-
- A.
 - 1) 80%
 - 2) is NOT
 - B.
 - 1) 90%
 - 2) is
 - C.
 - 1) 90%
 - 2) is NOT
 - D.
 - 1) 80%
 - 2) is

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 64

(1 point)

Given the following:

- The Water Treatment crew is performing 0-OP-RW-003, RESIN TRANSFER FROM IXS TO HIGH INTEGRITY CONTAINER.
- A primary liquid resin transfer has just commenced from 1-CH-I-1A (Unit 1A Mixed Bed IX) to a High Integrity Container (HIC).

Which one of the following completes both statements?

- 1) During the resin transfer, elevated dose rates are expected in the __ (1) __.
 - 2) If the flow path in the Auxiliary building develops a leak, the water entering the radiological floor drains will be pumped directly to the __ (2) __.
- A. 1) Surry Radwaste Facility
2) Surry Radwaste Facility
 - B. 1) Surry Radwaste Facility
2) Liquid Waste header
 - C. 1) Decon Building
2) Liquid Waste header
 - D. 1) Decon Building
2) Surry Radwaste Facility

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 65

(1 point)

Given the following:

- Unit 1 is in a Refueling shutdown with Fuel offload in progress.
- Containment purge is in operation with Containment Purge Supply fans and 1-VS-F-59, AUX BLDG (CAT 2) Filter Fan is running.
- A Containment Instrument Air compressor is in operation on its normal suction flow path.
- Annunciator 1-RM-K8, 1-RM-RI-162 HIGH, alarms.
- The BOP confirms that the MANPLTR CRN 1-RM-RI-162, is above the HIGH setpoint.

Based on the conditions given, which ONE of the following completes the statements below?

- 1) 1-VS-F-59 __ (1) __ automatically trip.
 - 2) With no operator action, 1-IA-AOV-103, CTMT IA COMPR OUTSIDE SUCTION __ (2) __ OPEN.
- A. 1) will NOT
2) will NOT
 - B. 1) will
2) will NOT
 - C. 1) will NOT
2) will
 - D. 1) will
2) will

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 66

(1 point)

Per OP-AA-100, CONDUCT OF OPERATIONS, which ONE of the following is correct?

- 1) A plant announcement for starting 1-VS-F-29A, Turbine Building Exhaust Fan, __ (2) __ required.
- 2) A plant announcement for primary resin transfer to a HIC __ (1) __ required.

- A. (1) is (2) is not
- B. (1) is not (2) is not
- C. (1) is (2) is
- D. (1) is not (2) is

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 67

(1 point)

Given the following:

- Unit 1 is at 25% power.
- Unit 1 is preparing to perform SI Accumulator recirculation and sampling per 1-OP-SI-002, SAFETY INJECTION ACCUMULATORS.
- Administrative control will be required for two manual valves, both located in the Auxiliary Building.

Which ONE of the following completes the following statements in accordance with SUADM-O-26, ADMINISTRATIVE CONTROL OF OPERATIONAL COMPONENTS, and 1-OP-SI-002?

- 1) One operator __ (1) __ permitted to be assigned administrative control of both manual valves.
- 2) It __ (2) __ acceptable for an operator assigned to the Fire Team to also have an administrative control function.

- A. 1) is NOT
2) is NOT
- B. 1) is NOT
2) is
- C. 1) is
2) is NOT
- D. 1) is
2) is

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 68

(1 point)

Refueling Integrity has just been set for Unit 2.

Which one of the following completes both statements in accordance with 1-OP-CT-002, CONTAINMENT PENETRATION BREACH LOG?

- 1) The __ (1) __ shall maintain control of the Containment Penetration Breach log.
 - 2) The names of the containment closure team __ (2) __ required to be recorded in the Unit Narrative Log.
- A.
 - 1) Shift Manager
 - 2) are
 - B.
 - 1) Maintenance Manager
 - 2) are NOT
 - C.
 - 1) Shift Manager
 - 2) are NOT
 - D.
 - 1) Maintenance Manager
 - 2) are

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 69

(1 point)

Given the following:

- Unit 1 is at 32% power and shutting down per 1-GOP-2.1, UNIT SHUTDOWN to LESS THAN 30%, for refueling outage.
- The BOP is preparing to transfer station Electrical Service from Normal to Reserve in accordance with Attachment 6, "Transferring to RSS Supply".
- No other reactor operators are available for a peer check.

Which ONE of the following completes both statements?

- 1) OP-AA-100, Conduct of Operations __ (1) __ contain an allowance to perform a control room manipulation without a peer check from another reactor operator during normal or routine operations activities.
- 2) If the transfer was performed incorrectly by opening the Station Service Norm Sup Bkr 15C2 prior to closing Reserve Sup Bkr 15C1 the reactor __ (2) __ required to be manually tripped.

- A. 1) does NOT
2) is NOT
- B. 1) does
2) is
- C. 1) does
2) is NOT
- D. 1) does NOT
2) is

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 70

(1 point)

Given the following:

- 1B Waste Gas Decay Tank (WGDT) is in service on the “A” oxygen analyzer.
- Preparations are being made to place the “B” WGDT on holdup for release in accordance with OP-23.2.1, PUTTING WGDT 1B ON HOLDUP AND WGDT 1A IN SERVICE.
- Initial Hydrogen concentration in “B” WGDT is 8.1%.
- “B” WGDT pressure is 115 psig.
- Annunciator 0-WD-D9, WASTE GAS DECAY TANKS HI O₂, is LIT and verified at the alarm setpoint.

Which ONE of the following completes both statements?

- 1) In accordance with OP-23.2.1, release of “B” WGDT __ (1) __ permitted.
 - 2) In accordance with TS 3.11.B, Gas Storage Tanks, the maximum curie content in each gas storage tank is limited to a maximum of __ (2) __ in order to limit the total body exposure to an individual at the exclusion boundary.
-
- A. 1) is
2) 24,600 curies
 - B. 1) is NOT
2) 24,600 curies
 - C. 1) is
2) 12,300 curies
 - D. 1) is NOT
2) 12,300 curies

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 71

(1 point)

Given the following:

- Unit 1 is at 15% power.
- Pressurizer level is 22.4% and lowering.

Which ONE of the following completes the statements below?

- 1) At this time, the team will use the __ (1) __ RMs to evaluate for a primary to secondary leak.
- 2) If Health Physics is directed to take local surveys at the appropriate rad monitors, they must be sent to Unit 1 __ (2) __.

- A.
 - 1) N-16
 - 2) Mechanical Equipment Room
- B.
 - 1) Main Steam
 - 2) Mechanical Equipment Room
- C.
 - 1) N-16
 - 2) Safeguards
- D.
 - 1) Main Steam
 - 2) Safeguards

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 72

(1 point)

Which ONE of the following completes both statements in accordance with VPAP-2101, Radiation Protection Program?

- 1) The RWP for performing Operator log rounds in the Auxiliary Building is an example of a ___(1)___ RWP.
- 2) A ___(2)___ RWP is used for the hanging of caution tag(s) to prevent inadvertent RCS dilution per 1-GOP-2.2, UNIT SHUTDOWN, LESS THAN 30 % TO HSD.

- A.
 - 1) General
 - 2) Specific
- B.
 - 1) Specific
 - 2) Specific
- C.
 - 1) General
 - 2) General
- D.
 - 1) Specific
 - 2) General

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 73

(1 point)

Given the following:

- Unit 1 is shutdown, with an RCS cooldown in progress.
- A spurious Train "A" Safety Injection (SI) has just occurred.
- 500 gpm of High Head SI flow to the Cold Legs is indicated.

Which ONE of the following completes the statements below?

- 1) The earliest time that an Abnormal Procedure is allowed to be used in lieu of 1-E-0 for this event is when RCS temperature first reaches __(1)__.
 - A. 1) 200°F
 - 2) will not
 - B. 1) 350°F
 - 2) will
 - C. 1) 350°F
 - 2) will not
 - D. 1) 200°F
 - 2) will
- 2) This Abnormal Procedure __(2)__ direct depressing the SI ACTUATION TRAIN A pushbutton.

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 74

(1 point)

Unit 2 is operating at 100% power.

- Reactor Operator notices that 2K-H1 Power indicating lights are “out”.
- Reactor Operator verifies that the light bulbs are “good”.
- Team enters 0-AP-10.13, LOSS OF MAIN CONTROL ROOM ANNUNCIATORS.

Which ONE of the following completes the statements below?

- 1) The power supplies that are lost to cause a total loss of Unit 2 Annunciators are __ (1) __.
 - 2) The example of a Unit 2 “annunciator functional check” listed in 0-AP-10.13 __ (2) __ local action outside the MCR.
-
- A. 1) MCC 2H1-1 and “A” DC bus
2) does NOT require
 - B. 1) MCC 2H1-1 and “A” DC bus
2) requires
 - C. 1) MCC 2J1-1 and Vital Bus III
2) does NOT require
 - D. 1) MCC 2J1-1 and Vital Bus III
2) requires

Surry Power Station

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Question: 75

(1 point)

Unit 1 is initially at 88% power. A plant transient occurs causing the following changes:

Parameter	Initial	Current
Reactor Power	88%	91%
Generator MWe	810.9 MWe	887.1 MWe
Pressurizer Level	49.5%	48.3%
Pressurizer Pressure	2235 psig	2215 psig
RCS Tave	569.7 °F	568.3 °F
Valve Positioner Limiter Light	Not-lit	Lit

Which one of the following procedures addresses all the conditions given?

- A. 1-AP-31.00, Increasing or Decreasing RCS Pressure.
- B. 1-AP-16.00, Excessive RCS Leakage.
- C. 1-AP-38.00, Main Steam System Control Malfunction.
- D. 1-AP-18.00, Loss of HP Heater Drain Pump.

Surry Power Station

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Question: 76

(1 point)

Initial Conditions:

- Unit 1 is at Hot Shutdown.
- The “A” Reactor Coolant Pump (1-RC-P-1A) is secured, “B” and “C” RCPs are running.
- The crew is lowering RCS boron concentration to Hot Zero Power Boron Concentration per 1-GOP-1.3, UNIT STARTUP, RCS HEATUP FROM 345°F TO HSD.

Current Conditions:

- The following conditions exist for the “B” Reactor Coolant Pump (1-RC-P-1B):
 - 1C-B5, RCP 1B SEAL 2 LO INLET PRESS, is LIT.
 - 1C-E4, RCP 1B SEAL LEAKOFF LO FLOW, is LIT.
 - RCP B SEAL PRESS 1-CH-PI-1155A is 1150 psig.
 - RCP SEAL LEAKOFF FLOW on 1-CH-FR-1190 is 0.00 gpm.

Which ONE of the following completes the following statements?

- 1) 1-RC-P-1B is experiencing a __ (1) __.
 - 2) After securing 1-RC-P-1B, there __ (2) __ be sufficient forced RCS flow to provide adequate boron mixing in the RCS per Tech Spec 3.1.A.1, Reactor Coolant Pumps Basis.
-
- A. 1) failure of #3 seal
2) will
 - B. 1) blockage in the seal return line
2) will not
 - C. 1) failure of #3 seal
2) will not
 - D. 1) blockage in the seal return line
2) will

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 77
(1 point)

Initial Conditions:

- Both units tripped from 100% power, due to an unisolable CC rupture.
- The Unit 1 team entered 1-AP-15.00, LOSS OF COMPONENT COOLING.
- The following conditions exist for Unit 1:
 - RCPs have been secured.
 - Normal letdown has been isolated.
 - "A" and "B" CC Pumps' switches are in Pull-To-Lock.
 - Charging flow has been isolated and Seal Injection throttled to 6 gpm each.
 - Tave is 547°F and stable.
 - PRZR Level is 30.2% and slowly rising.
 - Attempts to crosstie Instrument Air to Containment are unsuccessful.

Current Conditions:

- The team is performing 0-FCA-1.00, LIMITING MCR FIRE, Attachment 7, ESTABLISHING ALTERNATE LETDOWN.

Based on given conditions, which ONE of the following completes both statements?

- 1) In accordance with 1-AP-15.00, __ (1) __ may be required to maintain PRZR level until the alternate letdown flow path is established.
 - 2) 0-FCA-1.00 Attachment 7 __ (2) __ require performing 0-FCA-16.00, LOCAL OPERATION OF AIR OPERATED VALVES.
-
- A. 1) Excess Letdown
2) will NOT
 - B. 1) RCS cooldown
2) will
 - C. 1) Excess Letdown
2) will
 - D. 1) RCS cooldown
2) will NOT

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 78

(1 point)

Unit 1 is recovering from an Uncontrolled Depressurization of all Steam Generators inside Containment with the following conditions.

- The team just secured the LHSI pumps per 1-ECA-2.1, UNCONTROLLED DEPRESSURIZATION OF ALL STEAM GENERATORS.
- Containment pressure is 16.3 psia and lowering.
- RWST level is 33% and lowering.
- All Containment and Recirc Spray equipment are operating.

As Containment pressure continues to lower which ONE of the following completes the statement below?

Per 1-ECA-2.1 once Ctmt pressure falls below __ (1) __, the CS pumps and the OSRS pumps are secured. Per 1-ECA-2.1 Background document, the Containment Spray pumps are secured at this pressure in order to __ (2) __.

- A. 1) 12 psia
2) minimize depletion of RWST
- B. 1) 10 psia
2) minimize depletion of RWST
- C. 1) 12 psia
2) prevent cavitation of Ctmt spray pumps
- D. 1) 10 psia
2) prevent cavitation of Ctmt spray pumps

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 79
(1 point)

Initial Conditions (at time 0030):

- Both units are at 100% power.
- The AAC Diesel Generator is tagged out.
- Security reported a tornado touched down in the switchyard and traveled across the Condensate Polishing Building.
- A loss of all offsite power occurred on both units.
- #1 EDG failed to start and is not available.

Current Conditions (at time 0047):

- Breaker 15J3 (#3 EDG to 1J Bus) cannot be closed.
- CETC Temperature is 702°F and rising.
- RVLIS Full Range is 98% and stable.

Which ONE of the following is the highest required EAL classification for this event?

REFERENCE PROVIDED

- A. General Emergency
- B. Notification Of Unusual Event
- C. Alert
- D. Site Area Emergency

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 80

(1 point)

Initial Conditions:

- Unit 1 is at Hot Shutdown, Unit 2 is shutdown with fuel offloaded.
- Today is Wednesday.
- 1410: Annunciator 1D-G5, SW OR CC PPS DISCH TO CHRG PPS LO PRESS is in alarm.
- The crew enters 0-AP-12.00, SERVICE WATER SYSTEM ABNORMAL CONDITIONS.

Current Conditions (10 minutes later):

- The RO starts recording Unit 1 operating CHG pump bearing temperatures.
 - 1420 = 170 °F
 - 1430 = 175 °F
 - 1440 = 180 °F
 - 1450 = 185 °F
 - 1500 = 190 °F
- 1500: All Unit 1 Charging pumps are declared inoperable.

Based on the current conditions which ONE of the following answers the questions below?

- 1) In accordance with 0-AP-12.00, the earliest time the operating charging pump is required to be shifted is __ (1) __.
 - 2) The latest time Unit 1 is required to be in Cold Shutdown is __ (2) __.
- A. 1) 1440
2) Friday at 0300
- B. 1) 1450
2) Thursday at 2100
- C. 1) 1450
2) Friday at 0300
- D. 1) 1440
2) Thursday at 2100

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 81

(1 point)

Given the following:

- Unit 1 is at 100%.
- Annunciator 1B-F6, CTMT INST AIR HDR LO PRESS, alarms.
- You contact the field operator and give the following direction: "Open 1-IA-446, AND 1-IA-447, UNIT 1 INSTRUMENT AIR TO UNIT 1 CONTAINMENT VALVES immediately."
- Administrative control of 1-IA-446/1-IA-447 has NOT been assigned.

Which ONE of the following completes the statements below about this event?

- 1) To restore Containment IA pressure, the operator must be sent to the __ (1) __ basement for the necessary local valve operation.
- 2) In accordance with ARP 1B-F6, a __ (2) __ required action exists for TS 3.8.C, Containment Isolation Valves.

- A.
 - 1) Safeguards
 - 2) 4 hour
- B.
 - 1) Safeguards
 - 2) 1 hour
- C.
 - 1) Auxiliary Building
 - 2) 4 hour
- D.
 - 1) Auxiliary Building
 - 2) 1 hour

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 82

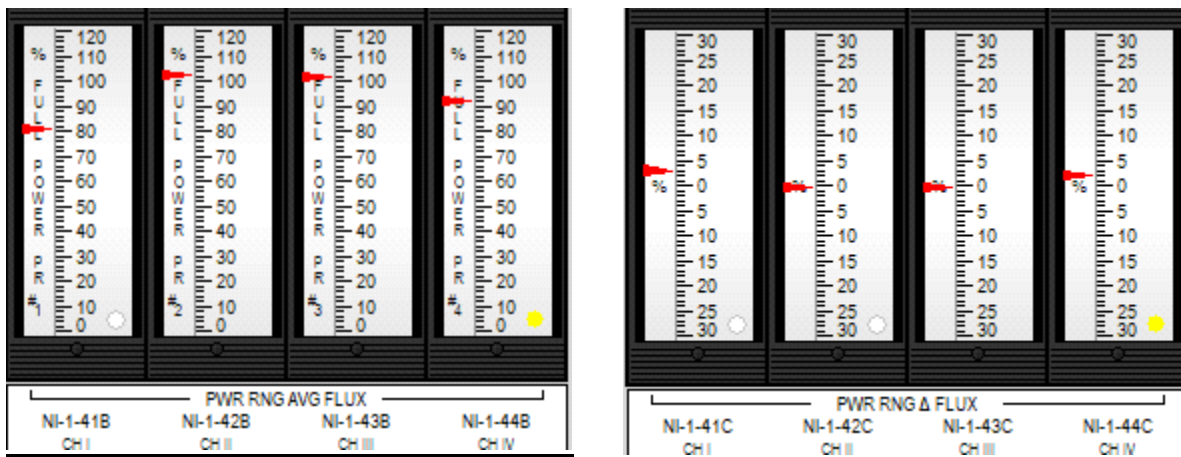
(1 point)

Initial Conditions:

- Unit 1 was operating at 100% power, NOP and NOT.
- Delta Flux Target was -1.0%.
- Shutdown Bank A rod, N7 dropped fully into the core.

Current Conditions:

- The crew is performing 0-AP-1.00, ROD CONTROL SYSTEM MALFUNCTION.
- Tave is 567 and steady.
- Pzr Pressure is 2174 psig and rising.
- Power Range NI channels and Delta Flux are as shown below.



Which ONE of the following completes the questions below?

- Based on the conditions given, the most limiting power distribution limit is __ (1) __.
 - 1-OP-RX-001, SHUTDOWN MARGIN (CALCULATED AT POWER), __ (2) __ required to be performed for the **initial** shutdown margin verification required by TS 3.12, Control Rod Assemblies and Power Distribution Limits.
- Axial Flux Deviation
 - is NOT
 - Quadrant Power Tilt
 - is
 - Axial Flux Deviation
 - is
 - Quadrant Power Tilt
 - is NOT

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 83

(1 point)

Initial Conditions:

- Unit 1 is at Refueling Shutdown (RSD).
- During Core offload, the Containment Manipulator Crane mast failed, dropping a latched assembly onto the refueling cavity floor.
- The fuel clad is significantly damaged.

Current Conditions:

- The Team is performing 0-AP-22.00, FUEL HANDLING ABNORMAL CONDITIONS.
- HP has confirmed Radiation protection conditions are adequate to allow Containment re-entry for Containment Closure.

Which ONE of the following completes BOTH statements?

- 1) Per 0-AP-22.00, Containment closure will be established in a maximum time of __ (1) __.
 - 2) In accordance with the bases for Tech Spec 3.10, Refueling, the fuel handling accident analysis assumes 100% release of the assembly gap activity after a __ (1) __ decay period following operation at 2605 MWth.
-
- A. 1) 45 minutes
2) 100-hour
 - B. 1) 45 minutes
2) 48-hour
 - C. 1) 4 hours
2) 100-hour
 - D. 1) 4 hours
2) 48-hour

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 84

(1 point)

Initial Conditions:

- Unit 2 was operating at 100% power.
- 2-AP-16.00, Excessive RCS Leakage, performed due to RCS leakage of 30 gpm into the "C" SG.
- Conditions degrade, RCS Leakage rises to 100 gpm, and the RO is directed to trip the reactor and perform 2-E-0, REACTOR TRIP OR SI.

Current Conditions (2 minutes later):

- RCS temperature is 545°F and stable.
 - RCS pressure is 1978 psig and stable.
 - Steam Generator Tube leakage is 90 gpm and stable.
- 1) For the current conditions, which of the following identifies the procedure/step that will be completed first, after 2-E-0?
 - 2) For the current conditions, how will the RCS cooldown and depressurization be initially conducted?
- A.
 - 1) 2-ES-0.1, REACTOR TRIP RESPONSE /step 1: CHECK RCS TEMPERATURE CONTROL.
 - 2) RCS cooldown at max rate until below target CETC. When below CETC depressurize RCS to stop breakflow.
 - B.
 - 1) 2-AP-24.01, LARGE SG TUBE LEAK /step 1: CHECK SI IN SERVICE.
 - 2) RCS Cooldown ≤ 100 °F/hour. RCS depressurization to block SI can be performed simultaneously with RCS cooldown.
 - C.
 - 1) 2-ES-0.1, REACTOR TRIP RESPONSE /step 1: CHECK RCS TEMPERATURE CONTROL.
 - 2) RCS Cooldown ≤ 100 °F/hour. RCS depressurization to block SI can be performed simultaneously with RCS cooldown.
 - D.
 - 1) 2-AP-24.01/step 1, CHECK SI IN SERVICE.
 - 2) RCS cooldown at max rate until below target CETC. When below CETC depressurize RCS to stop breakflow.

Surry Power Station

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Question: 85

(1 point)

Initial Conditions:

- A fire has started in the Main Control Room.

Current Conditions (10 minutes later):

- Efforts to put out the fire have failed.
- Both units' reactors are tripped and RCPs secured.
- The Control Room Team has evacuated.
- The Unit 2 team is determining S/G Levels per 0-FCA-11.00, REMOTE MONITORING.
- The following indications are reported:
 - S/G Wide Range Levels are 55% and slowly rising.
 - S/G Pressures are 850 psig and stable.

Which ONE of the following completes the following statements?

- 1) Unit 2 S/G Levels __ (1) __ at the level required by 0-FCA-11.00.
- 2) Based on current conditions, the highest required EAL classification is __ (2) __.

REFERENCE PROVIDED

- A. 1) are not
2) an Alert
- B. 1) are
2) a Site Area Emergency
- C. 1) are not
2) a Site Area Emergency
- D. 1) are
2) an Alert

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 86

(1 point)

Given the following:

- Unit 1 and Unit 2 are operating at 100% power.
- 1-CH-P-1C, Charging pump is running.
- A failure of the VCT causes the following:
 - 1-CH-LI-1115, VCT Level fails HIGH.
 - Annunciator 1D-G1, VCT HI-LO LVL is Lit.
 - Annunciator VCT HI-LO PRESS is lit.
 - VCT level is 0%, VCT Pressure is 0 psig.
- Multiple Aux Building radiation monitor alarms are coming in.
- The crew is evaluating 1-AP-8.00, LOSS OF NORMAL CHARGING, step 3, Charging Pump cross-connect REQUIRED.
- The RO reports that 1-CH-P-1C, Charging pump discharge pressure, Charging flow, and Charging motor amps are erratic.
- Unit 2 is directed to supply Unit 1 Charging using Charging Crosstie.

Which ONE of the following describes system response and operator actions?

- 1) In accordance with 1-AP-8.00, for the given conditions, Unit 2 __ (1) __ be manually tripped.
 - 2) In accordance with the bases for TS3.2, CVCS, the Charging Cross tie permits the opposite unit's charging pump to be used to bring the disabled unit to __ (2) __ shutdown condition.
-
- A. 1) will NOT
2) Hot
 - B. 1) will
2) Cold
 - C. 1) will NOT
2) Cold
 - D. 1) will
2) Hot

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 87

(1 point)

Given the following:

- Unit 1 and Unit 2 are operating at 100%.
- Unit 1 is performing 1-OPT-SI-003, QUARTERLY TEST OF SI MOVs AND RWST CROSSTIE TVs.
- The operator is currently performing section 6.6, Testing the LHSI Pump A Suction from RWST Valve.
- 1-SI-MOV-1862A, LHSI PUMP A SUCTION stroked normally from Full Open to Full Close.
- Following Stroke of 1-SI-MOV-1862A from Full Close to Full Open the Reactor Operator reports the following:
 - 1-SI-MOV-1862A, indicates intermediate.
 - The Local operator at 1-SI-MOV-1862A reports that the MOV stroked smoothly, but the MOV is NOT fully open.
- The SRO declares SI train A inoperable and enters TS Clock for TS 3.3.A.3, Safety Injection.

Which ONE of the following completes the statements below?

- 1) Annunciator 1A-D4, SI VV OUT OF POSITION __ (1) __ lit.
- 2) IF 1-SI-MOV-1862A is locally opened, and the MOV breaker is danger tagged OFF, the TS Clock __ (2) __ be exited.

- A. 1) is
 2) can NOT
- B. 1) is
 2) can
- C. 1) is NOT
 2) can NOT
- D. 1) is NOT
 2) can

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 88

(1 point)

Given the following:

- Unit 1 is at 100% power.
- The Control Power fuses for Power Range NIS Channel 4 (N44) have blown.
- The Instrument power fuses are intact.

Which ONE of the following completes both statements?

- 1) Annunciator 1E-H5, NIS PWR RNG HI STPT CH4 __ (1) __ be lit.
 - 2) Per TS Table 3.7-1, Reactor Trip Instrument Operating Conditions, the N44 Channel may be bypassed for up to __ (2) __ hours for surveillance testing of the redundant channels.
- A. 1) will NOT
2) 2
- B. 1) will
2) 2
- C. 1) will
2) 12
- D. 1) will NOT
2) 12

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 89

(1 point)

Initial Conditions:

- Unit 2 was stable at 100% power.
- The PCS Calorimetric is based on the Ultrasonic (UFM) detectors.
- A SGWLCS failure occurred that caused "B" Feedwater Regulating Valve (FRV) to travel open.
- During the immediate action steps, the RO noted the "B" FRV is stuck open and had to stabilize "B" S/G level by throttling the "B" Main Feedwater Isolation MOV.

Current Conditions:

- Unit 2B FRV is on the Jack in accordance with 2-MOP-FW-015, MAIN FEEDWATER REGULATING VALVE JACKING OPERATIONS.

Which ONE of the following completes both statements?

- 1) If the 2B FRV bypass HCV is used for fine control of feedwater flow, the UFM system will ___(2)___ FUNCTIONAL.
- 2) The NRC Resident Inspector ___(1)___ required to be notified.

- A. 1) NOT be
2) is
- B. 1) NOT be
2) is NOT
- C. 1) remain
2) is
- D. 1) remain
2) is NOT

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 90
(1 point)

Initial Conditions:

- 2-OPT-EG-001, NUMBER 2 EMERGENCY DIESEL GENERATOR MONTHLY START EXERCISE TEST, is in progress.
- #2 EDG has been aligned for testing and is operating at test load.

Current Conditions:

- Breaker 252, 34.5KV RSST B SUPPLY BREAKER, spuriously opened.

Which ONE of the following completes the statement below?

- 1) 2-OPT-EG-001 Attachment 7, EDG CONTINGENCY ACTIONS, __(1)__ required to be performed.
 - 2) Based on current offsite power availability, a TS 3.16.A, Emergency Power System, required action clock __(2)__.
- A. 1) is not
2) exists
- B. 1) is
2) exists
- C. 1) is not
2) does NOT exist
- D. 1) is
2) does NOT exist

Surry Power Station

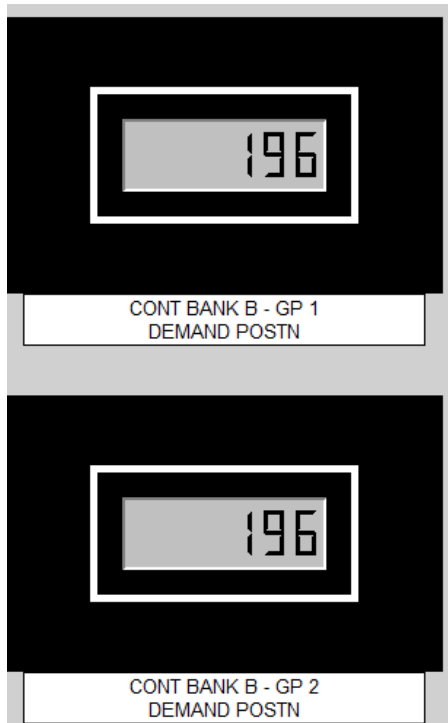
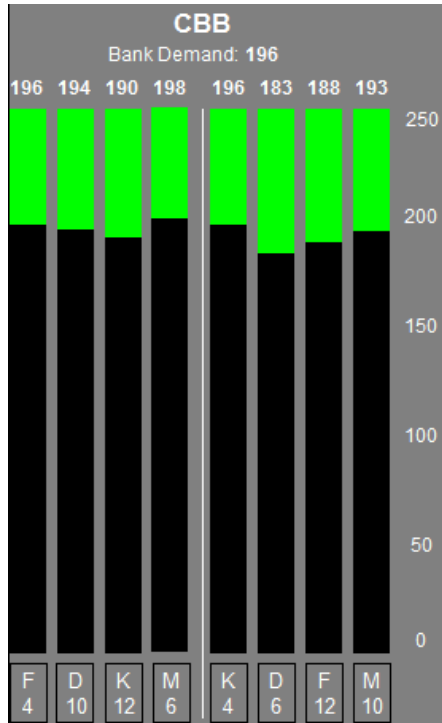
2021 NRC SPS SRO NRC Examination

Question: 91

(1 point)

Given the following conditions:

- Unit 1 is performing physics testing following a refueling outage.
- Isothermal Temperature Coefficient determination is in progress.
- RCS temperature is currently being lowered by 3°F.
- MCR indications are:



Which ONE of the following completes the statements?

- Control Rod D-6 ____ operable.
 - One of the bases for Rod Position Indication is to ____.
- | | |
|--------------|--|
| A. 1) is not | 2) provide required SDM |
| B. 1) is not | 2) limit the reactivity inserted by an ejected rod |
| C. 1) is | 2) limit the reactivity inserted by an ejected rod |
| D. 1) is | 2) provide required SDM |

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 92

(1 point)

Initial Conditions:

- Unit 1 is operating at 100%, Unit 2 is in a Refueling outage.
- "A" WGDT is in service (lined up).
- "B" WGDT release is in progress in accordance with OP-23.2.4, RELEASE OF WASTE GAS DECAY TANK 1B.
- A loss of power to the transmitter for Process Vent flow occurred.
- Annunciator 0-WD-B8, PROCESS VENT LO FLOW, is received.
- 1-GW-F-1A, PROCESS VENT BLOWER, is still running.

Current Conditions:

- It is desired to continue the release.

Which ONE of the following completes both statements?

- 1) CTMT Vacuum Pumps 1-CV-P-1A and 1-CV-P-1B __ (1) __ automatically trip.
- 2) The "Loss of Radioactive Gaseous Effluent Monitoring Instrumentation Sampling Schedule" attachment in HP-3010.031, Radioactive Gaseous Waste Sampling and Analysis, __ (2) __ required to be initiated.

REFERENCE PROVIDED

- A. 1) will NOT
 2) is
- B. 1) will
 2) is NOT
- C. 1) will
 2) is
- D. 1) will NOT
 2) is NOT

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 93

(1 point)

Given the following conditions:

- Unit 1 and Unit 2 are operating at 100% power when a fire occurs in the Unit 1 Emergency Switchgear Room.
- Annunciator 0-VSP-M2, EMERG SWGR RM HALON SYS FIRE/TRBL alarms.
- An Operator is dispatched and he reports from the Unit 2 ESGR that there is a fire in the Unit 1 ESGR.
- An Operator attempts to manually actuate the Halon Fire protection system from the MCR but the system would NOT actuate.

Which ONE of the following completes both statements?

- 1) The PULL station for actuating Halon for Unit 1 ESGR is located at the __ (1) __.
 - 2) 0-AP-48.00, FIRE PROTECTION OPERATIONS RESPONSE, Attachment 3, Appendix R Safe Shutdown Functions __ (2) __ required to be performed.
-
- A. 1) Unit 1 Turbine building
2) is
 - B. 1) Unit 1 Turbine building
2) is NOT
 - C. 1) Unit 2 ESGR
2) is
 - D. 1) Unit 2 ESGR
2) is NOT

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 94

(1 point)

Per LI-AA-700, Fatigue Management and Work Hour Limits for Covered Workers, which ONE of the following completes the statements below?

- 1) During online operations, and without issuance of a waiver, ensure the individual does not work more than weekly average of __ (1) __ hours over a 6-week period.
- 2) The Operations Shift Manager __ (2) __ requisite signature authority to sign for Approval of Attachment 2, 10 CFR 26 Limits Waiver.

- A. 1) 72
 2) has
- B. 1) 54
 2) has
- C. 1) 54
 2) does NOT have
- D. 1) 72
 2) does NOT have

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 95

(1 point)

Given the following:

- Unit 2 is stable at 1×10^{-8} amps.
- 2-GOP-1.4, UNIT STARTUP, HSD TO 2% REACTOR POWER, is in progress.
- The team is commencing 2-NPT-RX-008, STARTUP PHYSICS TESTING, starting with Shutdown Bank "A" (SBA).
- A Reactivity SRO is stationed on Unit 2.
- An additional RO is stationed on Unit 2.

Which ONE of the following completes both statements?

- 1) Per the basis of T.S.3.12 CONTROL ROD ASSEMBLIES AND POWER DISTRIBUTION LIMITS, when the SBA rods are inserted, a Tech Spec 3.12 LCO entry __ (1) __ be required.
 - 2) Per OP-AP-300, REACTIVITY MANAGEMENT, __ (2) __ will PROVIDE peer checks for the Reactor Operator operating the SBA rods.
-
- A. 1) will not
2) the Reactivity SRO
 - B. 1) will not
2) the additional RO
 - C. 1) will
2) the Reactivity SRO
 - D. 1) will
2) the additional RO

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 96

(1 point)

A Tagout is being generated using a Relief Valve as part of the boundary with two breakers that may require grounding devices.

In accordance with OP-AA-200, EQUIPMENT CLEARANCES:

- 1) The lowest level approval that is required to use relief valves as part of the boundary is __ (1) __.
 - 2) The minimum voltage that requires grounding devices when working on electrical conductors, are those conductors that operate greater than __ (2) __ volts.
-
- A.
 - 1) a Licensed SRO
 - 2) 600
 - B.
 - 1) a Licensed SRO
 - 2) 150
 - C.
 - 1) the Operations Manager on Call (OMOC)
 - 2) 600
 - D.
 - 1) the Operations Manager on Call (OMOC)
 - 2) 150

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 97

(1 point)

Given the following:

- Unit 1 is at Refueling Shutdown (RSD).
- 1-OP-FH-001, CONTROLLING PROCEDURE FOR REFUELING, is in progress.
- The Containment Refueling team is performing 1-OP-FH-015, MANIPULATOR CRANE, for core offload.

Which ONE of the following completes both statements?

- 1) Per 1-OP-FH-001, the person supervising Fuel Movement in the Fuel Building __ (1) __ required to be a licensed SRO.
- 2) Per 1-OP-FH-015, the refueling SRO in Containment __ (2) __ permitted to authorize use of the Overload Bypass.

- A. 1) is
2) is NOT
- B. 1) is NOT
2) is NOT
- C. 1) is
2) is
- D. 1) is NOT
2) is

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 98

(1 point)

Given the following:

- 0730: An operator is adjusting seal injection needle valves in the Auxiliary Building where Radiation levels are 125 mRem/hr at 30 cm.
- 0735: The operator has a heart attack, falls, and is knocked unconscious.
- 0735: The First Aid team has been called out per 0-AP-47.00, PERSONNEL INJURY.
- 0745: EMT personnel are at the scene and are administering first aid.
- The operator is conscious and contaminated.
- 0800: The injured operator has just left the station in an ambulance.
- 0830: The injured operator has just arrived at the hospital.

Which ONE of the following completes the statements below?

- 1) The Auxiliary Building __ (1) __ a locked high radiation area.
- 2) This event must be reported to the NRC no later than __ (2) __.

REFERENCE PROVIDED

- A. 1) is NOT
2) 1600 today
- B. 1) is
2) 1600 today
- C. 1) is NOT
2) 0830 tomorrow
- D. 1) is
2) 0830 tomorrow

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 99

(1 point)

Initial Conditions:

- Unit 1 was at 100%.
- A Reactor Trip and Safety Injection occurred.
- A field operator reports water and steam coming from the Unit 1 Safeguards Valve Pit door.
- The team entered 1-E-0, REACTOR TRIP OR SAFETY INJECTION.
- The Assistant RO performed Attachment 1, SYSTEM ALIGNMENT VERIFICATION.
- At Attachment 1 Step 12, CHECK SI FLOW, Safety Injection was reset.

Current Conditions:

- The SRO incorrectly transitioned from 1-E-0, to 1-E-1, LOSS OF REACTOR OR SECONDARY COOLANT.
- The team is at 1-E-1, Step 2, CHECK IF SGs ARE NOT FAULTED.
- The SRO identifies that the team should be in 1-ECA-1.2, LOCA OUTSIDE CONTAINMENT.
- A Safety Injection re-initiation occurs.

Which ONE of the following completes both statements in accordance with OP-AP-104, EMERGENCY AND ABNORMAL OPERATING PROCEDURES?

- 1) After the SRO exited 1-E-0, the team ____ (1) ____ permitted to reset SI again, using Step 12 of 1-E-0 Attachment 1.
- 2) In order to transition to 1-ECA-1.2, from 1-E-1 step 2, the SRO should __ (2) __ .
 - A. 1) is NOT
2) go directly to 1-E-1, step 18, INITIATE EVALUATION OF PLANT STATUS
 - B. 1) is
2) go directly to 1-E-1, step 18, INITIATE EVALUATION OF PLANT STATUS
 - C. 1) is NOT
2) go to 1-ES-0.0, REDIAGNOSIS
 - D. 1) is
2) go to 1-ES-0.0, REDIAGNOSIS

Surry Power Station

2021 NRC SPS SRO NRC Examination

Question: 100

(1 point)

Given the following:

- A Station Blackout has occurred on Unit 1.
- The crew is performing 1-ECA-0.0, LOSS OF ALL AC POWER.
- Per 1-ECA-0.0 the SGs have been depressurized to 175 psig.
- RCS Subcooling based on Core exit T/Cs is 10°F.
- #1 EDG was started and is supplying the 1H bus.
- The crew has reached the last step of 1-ECA-0.0 and is preparing to transition to the appropriate recovery procedure.
- The STA reports that a RED Path exists on the Heat Sink CSF Status Tree.

Which ONE of the following identifies the required recovery procedure strategy?

- A. Transition to 1-ECA-0.1, LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED, and enter 1-FR-H.1, RESPONSE TO LOSS OF SECONDARY HEAT SINK when allowed by 1-ECA-0.1.
- B. Transition to 1-ECA-0.2, LOSS OF ALL AC POWER RECOVERY WITH SI REQUIRED, and enter 1-FR-H.1, RESPONSE TO LOSS OF SECONDARY HEAT SINK when allowed by 1-ECA-0.2.
- C. Transition to 1-FR-H.1, RESPONSE TO LOSS OF SECONDARY HEAT SINK, and enter 1-ECA-0.1, LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED, when 1-FR-H.1 is complete.
- D. Transition to 1-FR-H.1, RESPONSE TO LOSS OF SECONDARY HEAT SINK, and enter 1-ECA-0.2, LOSS OF ALL AC POWER RECOVERY WITH SI REQUIRED, when 1-FR-H.1 is complete.

Enclosure 3

Applicant Questions asked during the Written Exam

Applicant Name: *Tampas*Question Number: *56* Time of Question: *1325*

Applicants Question:

*Clarify meaning of rod motion limits?*Time of Response: *1345*

Given to:

☒ Requesting Applicant Only
☐ All Remaining Applicants

NRC

Contacted:

☐ Yes
☐ No

Response Provided:

Answer the question based on the information provided.

Applicant Name: LORNE ARNETT

Question Number: 17

Time of Question: 1240

Applicants Question:

IS Z-RSP-2A CAVITATING?
I.E. ARE AMPS AND DISCHARGE PRESSURE FLUCTUATING
AFTER SECURING Z-CS-P-1A?

Time of Response:

1250

Given to:

☒ Requesting Applicant Only
☐ All Remaining Applicants

NRC

Contacted:

☒ Yes
☐ No

Response Provided:

Answer the question based on the information
provided.

Applicant Name: Matt ChristenburyQuestion Number: 79Time of Question: 1006

Applicants Question:

Can I have the EAL basis document to determine the definition of long term RCS heat removal capability, as contained in MGI.1?

Time of Response: 1032

Given to:

☒ Requesting Applicant Only
☐ All Remaining Applicants

NRC

Contacted:

☒ Yes
☐ No

Response Provided:

Answer the question based on the information provided.

Applicant Name: LORNE ARCHERQuestion Number: 34 Time of Question: 0955

Applicants Question:

With Regard To (1), Define "Immediate". Does This Mean Is A Manual Trip Required As Soon As You Enter 1-AP-15.00? (As in STEP #1) OR Does It Mean That once you get into The AP AND Perform A Handful of Steps To Determine That you have a Complete Loss of CC Then you Trip?

Time of Response: <u>1002</u>	Given to:	<input checked="" type="checkbox"/> Requesting Applicant Only	NRC	<input checked="" type="checkbox"/> Yes
		<input type="checkbox"/> All Remaining Applicants	Contacted:	<input type="checkbox"/> No

Response Provided:

Answer the question based on the information provided.

Applicant Name: JOE POLLARD Question Number: 85 Time of Question: 9:08

Applicants Question:

QUESTION STATES SLOWLY RISING.
WHAT IS THE RATE OF RISE? (WR level / min)

Time of Response:

0921

Given to:

☒ Requesting Applicant Only
☐ All Remaining Applicants

NRC

Contacted:

☒ Yes
☐ No

Response Provided:

Answer the question based on the information provided.

Applicant Name: OWENS, JONATHAN W.

Question Number: 4

Time of Question: 0820

Applicants Question:

DOES "PLACE SI IN COLD LEG RECIRCULATION" HAVE THE SAME MEANING AS "GO TO ES-1.3, PLACE SI ON COLD LEG RECIRC"
AT 19% IN RWST, TEAM WILL BE IN 1-ES-1.3, HOWEVER SI WILL NOT BE PLACED ON COLD LEG RECIRC UNTIL RMT ACTUATION SETPOINT

Time of Response: 0825

Given to:

☒ Requesting Applicant Only
☐ All Remaining Applicants

NRC

Contacted:

☒ Yes
☐ No

Response Provided:

Answer the question based on the information provided!

Enclosure 4

Post Exam Review Comments and Performance Analysis

Surry Power Station

2021 NRC LICENSE EXAM

POST EXAM COMMENTS

&

EXAM ANALYSIS

Name	Docket #	Position	Initial Exam Score
Jonathan W. Owens	55-75718	Reactor Operator	81.33
Matthew G. Paddock	55-75719	Reactor Operator	82.67
Berley L. Rister III	55-72930	Reactor Operator	82.67
Brian P. Russell	55-75722	Reactor Operator	81.33
Joseph R. S. Pollard	55-75720	Senior Reactor Operator	71.0
Courtney A. Tampas	55-75723	Senior Reactor Operator	78.0
Lorne W. Archer	55-24574	Senior Reactor Operator	78.0
Matthew D. Christenbury	55-24251	Senior Reactor Operator	85.0
Ronald J. Clement, Jr.	55-24252	Senior Reactor Operator	93.0

A. Post Exam Comments:

Source: Applicants, 55-75720 (Joseph Pollard), 55-75722 (Brian Russell), Courtney Tampas (55-75723).

Question: 28

Initial Conditions:

- Unit 1 Reactor startup was in progress following a Forced outage for RCP Corrective maintenance.
- Power was at 1×10^{-8} amps and holding for Critical Rod data.
- The crew has entered 1-AP-9.00, RCP ABNORMAL CONDITIONS, due to rising temp. and vibration trends, and has suspended any further power increase.

Current Conditions (10 minutes):

- The RO has plotted the most limiting 1-RC-P-1A parameters over the last 10 minutes and are as follows:

Parameter	Initial Reading	Current Reading (min)
Lower Thrust bearing	110 °F	145 °F
RCP Shaft vibration	9 mils	15.5 mils

Which ONE of the following completes the statements below?

- 1) Based on these trends, and assuming the trends continue at the same rate, the first parameter that will require the pump to be shutdown is the __ (1) __.
- 2) In accordance with the annunciator procedures and 1-AP-9.00, at this power level, a manual reactor trip __ (2) __ required before the RCP is shutdown.
 - A. 1) Lower Thrust bearing
2) is
 - B. 1) Lower Thrust bearing
2) is NOT
 - C. 1) RCP Shaft vibration
2) is NOT
 - D. 1) RCP Shaft vibration
2) is

Answer: D

Reference: 1-AP-9.00

Comment: **Step 19 of 1-AP-9.00 only directs a reactor trip if the unit is online. Applicants recommends removing the question from the exam because there is conflicting statements.**

Facility Position: In this question, the unit is critical, but not online. While the applicant is correct in that Step 19 directs a reactor trip (without first securing the RCP) if the unit is not online, a note at the beginning on 1-AP-9.00 states the following:
 "If an RCP needs to be tripped with the Reactor critical, a Reactor trip must be performed before securing the RCP". Tech Specs also states that the reactor shall not be brought critical with less than three pumps (RCPs) in non-isolated loops. This is required RO knowledge.
 The question is adequate as written.

Change Reference: None required.
 1-AP-9.00 Notes before Step 1. Requires reactor trip if < 3 RCPs when reactor is critical.

NUMBER	PROCEDURE TITLE	REVISION
1-AP-9.00	RCP ABNORMAL CONDITIONS	44
		PAGE 2 of 16

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
<p>*****</p> <p>CAUTION: If RCP seal injection flow is lost, RCP seal or bearing temperatures can be expected to reach maximum operating limits within one to two hours, even with normal Thermal Barrier CC flow.</p> <p>*****</p> <p>NOTE: • If an RCP needs to be tripped with the Reactor critical, a Reactor trip must be performed before securing the RCP.</p> <ul style="list-style-type: none"> • Attachment 1 and Attachment 6 list PCS points which may be used to monitor RCP performance. • If PCS unavailable, monitor RCP temperatures on 1-RC-TR-1448. <p>*1. ____ CHECK SEAL INJECTION - FLOW INDICATED</p> <p>Do the following:</p> <p><input type="checkbox"/> a) Check Thermal Barrier CC Flow.</p>		

1-AP-9.00 Step 19; states "on line" vice critical.

NUMBER	PROCEDURE TITLE	REVISION
1-AP-9.00	RCP ABNORMAL CONDITIONS	44
		PAGE 14 of 16

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
18. ____	CONSULT WITH SHIFT MANAGER AND OMOC TO DETERMINE THE NEED TO SHUTDOWN THE AFFECTED PUMP	<input type="checkbox"/> GO TO Step 23.
19. ____	CHECK UNIT STATUS - ON LINE	<input type="checkbox"/> GO TO Step 21.
20. ____	REMOVE UNIT FROM SERVICE IAW SHIFT MANAGER DIRECTION:	
	<input type="checkbox"/> • Applicable GOP 2 Series Procedure	
	<u>OR</u>	
	<input type="checkbox"/> • 0-AP-23.00, RAPID LOAD REDUCTION	
	<u>OR</u>	
	<input type="checkbox"/> • 1-E-0, REACTOR TRIP OR SAFETY INJECTION	
21. ____	SECURE AFFECTED RCP IAW SHIFT SUPERVISION DIRECTION	

Tech Spec 3.1.A.1 requires three RCPs whenever reactor is critical.

3.1 REACTOR COOLANT SYSTEM

Applicability

Applies to the operating status of the Reactor Coolant System.

Objectives

To specify those limiting conditions for operation of the Reactor Coolant System which must be met to ensure safe REACTOR OPERATION.

These conditions relate to: operational components, heatup and cooldown, leakage, reactor coolant activity, oxygen and chloride concentrations, minimum temperature for criticality, and Reactor Coolant System overpressure mitigation.

A. Operational Components

Specifications

1. Reactor Coolant Pumps

- a. A reactor shall not be brought critical with less than three pumps, in non-isolated loops, in operation.

Source: Applicants, 55-75722 (Brian Russell), 55-24252 (Ron Clement)

Question: 70

Given the following:

- 1B Waste Gas Decay Tank (WGDT) is in service on the “A” oxygen analyzer.
- Preparations are being made to place the “B” WGDT on holdup for release in accordance with OP-23.2.1, PUTTING WGDT 1B ON HOLDUP AND WGDT 1A IN SERVICE.
- Initial Hydrogen concentration in “B” WGDT is 8.1%.
- “B” WGDT pressure is 115 psig.
- Annunciator 0-WD-D9, WASTE GAS DECAY TANKS HI O2, is LIT and verified at the alarm setpoint.

Which ONE of the following completes both statements?

- 1) In accordance with OP-23.2.1, release of “B” WGDT __ (1) __ permitted.
- 2) In accordance with TS 3.11.B, Gas Storage Tanks, the maximum curie content in each gas storage tank is limited to a maximum of __ (2) __ in order to limit the total body exposure to an individual at the exclusion boundary.

- A.
 - 1) is
 - 2) 24,600 curies
- B.
 - 1) is NOT
 - 2) 24,600 curies
- C.
 - 1) is
 - 2) 12,300 curies
- D.
 - 1) is NOT
 - 2) 12,300 curies

Answer: A

Reference: OP-23.2.1

Comment: **Do not believe that the referenced procedure provides adequate guidance to answer this question. Applicants believe the answer should be changed to “B”.**

Facility We agree with the Applicant's comments.
Position: Problem Statement:

Question part 1 references OP-23.2.1 (PUTTING WGDT 1B ON HOLDUP AND WGDT 1A IN SERVICE). Review of this document reveals that there is no guidance, nor any associated limitations, related to the release of a WGDT (see reference below).

Trainees answered the question based on the knowledge that this procedure contained no guidance related to release. All candidates therefore selected "B" as the correct answer.

Proposed Resolution: Change the correct answer to "B".

Reference OP-23.2.1



SU-PROC-000-OP-2
3.2.1.pdf

Source: Applicants; 55-75720 (Joe Pollard), 55-75723 (Courtney Tampas)

Question: 76

Initial Conditions:

Unit 1 is at Hot Shutdown.

The "A" Reactor Coolant Pump (1-RC-P-1A) is secured, "B" and "C" RCPs are running.

The crew is lowering RCS boron concentration to Hot Zero Power Boron Concentration per 1-GOP-1.3, UNIT STARTUP, RCS HEATUP FROM 345oF TO HSD.

Current Conditions:

The following conditions exist for the "B" Reactor Coolant Pump (1-RC-P-1B):

1C-B5, RCP 1B SEAL 2 LO INLET PRESS, is LIT.

1C-E4, RCP 1B SEAL LEAKOFF LO FLOW, is LIT.

RCP B SEAL PRESS 1-CH-PI-1155A is 1150 psig.

RCP SEAL LEAKOFF FLOW on 1-CH-FR-1190 is 0.00 gpm.

Which ONE of the following completes the following statements?

1-RC-P-1B is experiencing a __ (1) __.

After securing 1-RC-P-1B, there __ (2) __ be sufficient forced RCS flow to provide adequate boron mixing in the RCS per Tech Spec 3.1.A.1, Reactor Coolant Pumps Basis.

- A. 1) failure of #3 seal
 2) will
- B. 1) blockage in the seal return line
 2) will not
- C. 1) failure of #3 seal
 2) will not
- D. 1) blockage in the seal return line
 2) will

Answer: A

Reference: 1-AP-9.00

Comment: **(Pollard and Tampas) A #3 RCP seal failure would not lower all the way to 0 gpm; it still reads a low flow in the simulator. Applicants believe the question should be removed because they believe seal leakoff flow will lower to a minimum value but not "0".**

Facility After the exam review, a #3 seal failure was run on the reference simulator.
 Position: Indicated Seal Leakoff flow lowered to 0.00 gpm as stated in the stem. In addition, it was verified that 1-CH-PI-1155A lowered to ~1150 psig. A seal return line blockage was also run on a separate RCP: Although seal return flow lowered to 0.00 gpm, the Seal Pressure indication rose to full RCS pressure, as expected for seal return line blockage or closure of the seal return control valve. Candidates' comments are accurate for a partial #3 seal failure. The question is adequate as written.

Change None required.
 Reference

Source: Applicant, 55-75723 (Courtney Tampas); 55-24252 (Ron Clement)

Question: 80

Initial Conditions:

- Unit 1 is at Hot Shutdown, Unit 2 is shutdown with fuel offloaded.
- Today is Wednesday.
- 1410: Annunciator 1D-G5, SW OR CC PPS DISCH TO CHRG PPS LO PRESS is in alarm.
- The crew enters 0-AP-12.00, SERVICE WATER SYSTEM ABNORMAL CONDITIONS.

Current Conditions (10 minutes later):

- The RO starts recording Unit 1 operating CHG pump bearing temperatures.
 - 1420 = 170 °F
 - 1430 = 175 °F
 - 1440 = 180 °F
 - 1450 = 185 °F
 - 1500 = 190 °F
- 1500: All Unit 1 Charging pumps are declared inoperable.

Based on the current conditions which ONE of the following answers the questions below?

1) In accordance with 0-AP-12.00, the earliest time the operating charging pump is required to be shifted is __(1)___.

2) The latest time Unit 1 is required to be in Cold Shutdown is __(2)___.

- A. 1) 1440
2) Friday at 0300
- B. 1) 1450
2) Thursday at 2100
- C. 1) 1450
2) Friday at 0300
- D. 1) 1440
2) Thursday at 2100

Answer: D

Reference: 0-AP-12.00, Tech Specs

Comment: **The referenced procedure is vague and ambiguous. The applicants recommend removing the question from the exam.**

Facility Position: We agree with the Applicants' position.
 Problem Statement:

Question part 1 refers to AP-12.00 Step 3 and the associated CAUTION and NOTES (see below).

CAUTION: Charging pumps should be secured if bearing temperatures reach 185°F.

NOTE:

- Preparations should be made to shift charging pumps if bearing temperatures exceed 180°F.
- The system engineer should be notified as soon as possible if charging pump bearing temperatures exceed 180°F.

*3. ___ CHECK CHG PUMP TEMPERATURES - ☐ Shift CHG pumps as necessary.
 LESS THAN 180°F

The issue with this question is the ambiguity of the procedural guidance.

Consider the following:

- ILT Training Materials (Lesson plan ND-95.3-LP-2 page 4) defines the following terms:
 - **Shall** – Mandatory Requirements
 - **Should** – Non-mandatory, preferred or suggested.
- The procedure states (via NOTE) that “Preparations **should** be made to shift charging pumps if bearing temperatures exceed 180°F.”
- The CAUTION states that “*charging pumps **should** be secured if bearing temperatures reach 185°F*”.
- Therefore, what actions are required if bearing temps are 181°F?
 - Is it time for the team to make preparations, or to shift pumps?
 - Performing step 3 would direct the operators to the RNO, which directs “Shift CHG pumps as necessary.” The words “as necessary” indicates that although bearing temps are not less than 180°F, shifting of pumps is not mandatory.

Clear guidance does not exist when shifting of charging pumps is REQUIRED (**shall**) as asked in the question.

- 1) In accordance with 0-AP-12.00, the earliest time the operating charging pump is **required** to be shifted is __ (1) __.

Proposed Resolution: Remove this question from the exam.

References:



SU-PROC-000-0-AP- ND-95.3-LP-2, EP
12.00[r015.00].pdf Writer Format Rev 1



Source: Applicant, 55-75723 (Courtney Tampas); 55-24574 (Lorne Archer); 55-75720 (Joseph Pollard)

Question: 99

Initial Conditions:

- Unit 1 was at 100%.
- A Reactor Trip and Safety Injection occurred.
- A field operator reports water and steam coming from the Unit 1 Safeguards Valve Pit door.
- The team entered 1-E-0, REACTOR TRIP OR SAFETY INJECTION.
- The Assistant RO performed Attachment 1, SYSTEM ALIGNMENT VERIFICATION.
- At Attachment 1 Step 12, CHECK SI FLOW, Safety Injection was reset.

Current Conditions:

- The SRO incorrectly transitioned from 1-E-0, to 1-E-1, LOSS OF REACTOR OR SECONDARY COOLANT.
- The team is at 1-E-1, Step 2, CHECK IF SGs ARE NOT FAULTED.
- The SRO identifies that the team should be in 1-ECA-1.2, LOCA OUTSIDE CONTAINMENT.
- A Safety Injection re-initiation occurs.

Which ONE of the following completes both statements in accordance with OP-AP-104, EMERGENCY AND ABNORMAL OPERATING PROCEDURES?

- 1) After the SRO exited 1-E-0, the team ____ (1) ____ permitted to reset SI again, using Step 12 of 1-E-0 Attachment 1.
 - 2) In order to transition to 1-ECA-1.2, from 1-E-1 step 2, the SRO should ____ (2) ____ .
- A. 1) is NOT
2) go directly to 1-E-1, step 18, INITIATE EVALUATION OF PLANT STATUS
 - B. 1) is
2) go directly to 1-E-1, step 18, INITIATE EVALUATION OF PLANT STATUS
 - C. 1) is NOT
2) go to 1-ES-0.0, REDIAGNOSIS
 - D. 1) is
2) go to 1-ES-0.0, REDIAGNOSIS

Answer: D

Reference: OP-AP-104

Comment: **The Answer is incorrect. This step is not a continuous action step. The correct answer should be changed to "C".**

Facility Position: We agree with the Applicants. After reviewing the referenced procedures again we determined the following.

Problem Statement:

Question part 1 asks:

After the SRO exited 1-E-0, the team ____ (1) ____ permitted to reset SI again, using Step 12 of 1-E-0 Attachment 1.

This question is evaluating the candidate's application of the second note prior to step 12.

NUMBER 1-E-0	ATTACHMENT TITLE SYSTEM ALIGNMENT VERIFICATION	ATTACHMENT 1
REVISION 78		PAGE 7 of 8

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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NOTE:

- CHG pumps should be run in the following order of priority: C, B, A.
- Subsequent SI signals may be reset by reperforming Step 12.

12. ____ CHECK SI FLOW:

<input type="checkbox"/> a) HHSI to cold legs - FLOW INDICATED <input type="checkbox"/> • 1-SI-FI-1961 (NQ) <input type="checkbox"/> • 1-SI-FI-1962 (NQ)	<input type="checkbox"/> a) Manually start pumps and align valves. IF flow NOT established, THEN consult with Shift Supervision to establish another
--	--

The concern with this question is whether this NOTE persists in subsequent procedures (outside of 1-E-0). Note that step 12 is NOT a continuous action step (no “*”).

From OP-AP-104 concerning NOTES:

3.4.1 REVIEW the following for NOTES and CAUTIONS:

- NOTE or CAUTION are considered part of the step that it precedes.
- Unless stated otherwise, NOTES and CAUTIONS apply throughout the procedure. **If an operator returns to a procedure, any applicable NOTES or CAUTIONS within that procedure are once again in effect.**
- NOTES and CAUTIONS may also be used to provide a contingent transition based on changes in plant conditions. Passive action statements may be used when continuous monitoring of a specific plant condition and an associated action is required.
- NOTES and CAUTIONS before the first step of a procedure typically apply to the entire procedure.

The highlighted text above indicates that NOTE and CAUTIONS **do not carry forth into subsequent procedures**. This directly contradicts Part 1 question.

Note that continuous action steps may transfer from EOP to EOP. OP-AP-104 contains the following NOTE prior to step 3.4.6:

NOTE: Continuous Action Steps may transfer from EOP to EOP. One example is RCS Temperature control. Temperature control guidance is applicable from the initial instructions on how and at what values to maintain RCS temperature until another EOP changes the temperature band.

But this note is not applicable as step 12 is not a CAS (as indicated by absence of “**”).

From ND-95.3-LP-2 (page 16): The Continuous Action Steps, *those denoted by an “**”*, should be read as, "Bill, this is a Continuous Action Step - CHECK IF LHSI PUMPS SHOULD BE STOPPED."

Since step 12 is not denoted as a continuous action step, there is no procedural guidance within OP-AP-104 that would direct that step 12 would be applicable outside the procedure in which it is contained.

Proposed Resolution: Change the correct answer to “C”.

References:



ND-95.3-LP-2, EP SU-PROCSU-ADM- SU-PROC-000-1-E-0.
 Writer Format Rev 1:OP-AP-104[r004].pdf pdf



Exam Analysis of High Miss questions

2021 NRC Exam Questions with High Miss Rate (>50%)

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RO EXAM:

Question: 23

Given the following:

- Both units are at 100% power.
- Annunciator 1-RMA-D6, VENT STACK #2 PART ALERT/HI, is alarming.
- The High LED indicator is lit for 1-VG-RI-131B, VENT #2 NORMAL GAS INDICATOR.
- The team is performing 0-AP-5.20, RADIATION MONITOR SYSTEM VENTILATION VENT HIGH ALARM.

Which ONE of the following completes the questions below?

- 1) In accordance with 0-AP-5.20, what action will the team direct to identify the leak location?
- 2) If the inlet flange of 1-GW-RV-111A, SAMPLE COMPRESSOR 1-GW-C-4A SUCTION RELIEF VALVE, is subsequently identified as the leak location, where must the team send a field operator to isolate the leak?

REFERENCE PROVIDED

- A.
 - 1) Have HP sample the area for Iodine and Particulates.
 - 2) Fuel Building.
- B.
 - 1) Align the affected area to Filtered Exhaust.
 - 2) Fuel Building.
- C.
 - 1) Have HP sample the area for Iodine and Particulates.
 - 2) PG Pump House.
- D.
 - 1) Align the affected area to Filtered Exhaust.
 - 2) PG Pump House.

Proposed answer: D

Analysis: Question Miss Rate 55.6%. Two (2) Candidates chose B, three (3) chose C, four (4) chose the correct answer. Question dealt with knowledge of the overall mitigation strategy for a gaseous waste system leak. Part 1) evaluated the overall mitigation strategy of using filtered ventilation to identify the affected leak location; distracter strategy of sampling for Iodine and Particulates based on the action if a rad monitor failure occurred. Part 2) evaluates the ability to use P&IDs to aid in determining the location of the leak; distracter (Fuel Building) based on being a location that also has multiple gaseous waste system components.

Question is acceptable, because this strategy is stated in 0-AP-5.20 and the provided P&IDs show the affected component is directly between two components located in the PG Pump House. No change required.

Question: 28

Initial Conditions:

- Unit 1 Reactor startup was in progress following a Forced outage for RCP Corrective maintenance.
- Power was at 1×10^{-8} amps and holding for Critical Rod data.
- The crew has entered 1-AP-9.00, RCP ABNORMAL CONDITIONS, due to rising temp. and vibration trends, and has suspended any further power increase.

Current Conditions (10 minutes):

- The RO has plotted the most limiting 1-RC-P-1A parameters over the last 10 minutes and are as follows:

Parameter	Initial Reading	Current Reading (10 min)
Lower Thrust bearing	110 °F	145 °F
RCP Shaft vibration	9 mils	15.5 mils

Which ONE of the following completes the statements below?

- 1) Based on these trends, and assuming the trends continue at the same rate, the first parameter that will require the pump to be shutdown is the ___(1)___.
- 2) In accordance with the annunciator procedures and 1-AP-9.00, at this power level, a manual reactor trip ___(2)___ required before the RCP is shutdown.
 - A. 1) Lower Thrust bearing
2) is
 - B. 1) Lower Thrust bearing
2) is NOT
 - C. 1) RCP Shaft vibration
2) is NOT
 - D. 1) RCP Shaft vibration
2) is

Proposed answer: D

Analysis: Question Miss Rate 55.6%. One (1) Candidate chose A, four (4) chose C, four (4) chose correct answer. Question dealt with knowledge of RCP abnormal conditions. Part 1) evaluated knowledge of the limiting RCP parameter; distracter based on a less limiting parameter that would still require securing the RCP is exceeded. Part 2) tests correct action to trip the reactor prior to stopping an RCP; distracter based on conditions a low power (below permissive P-8), when auto reactor trip would not occur after stopping an RCP.

Question is acceptable, because limiting thresholds for key RCP critical parameters is required knowledge, as well as NOTES and CAUTIONs at step 1 of APs; Par 2) is also aligned with Tech Spec 3.1. No change required.

Question: 48

Given the following:

- Unit 2 is at 25% power.
- A loss of the Unit 2 "A" DC bus occurs.
- A loss of offsite power also occurs.

Which ONE of the following completes the statements below?

- 1) The #2 EDG ____ (1) ____ automatically load onto the 2H bus.
 - 2) If an automatic turbine trip occurred, Main Generator excitation ____ (2) ____ remain energized with no operator action.
- A. 1) will NOT
2) will NOT
 - B. 1) will
2) will NOT
 - C. 1) will NOT
2) will
 - D. 1) will
2) will

Proposed answer: C

Analysis: Question Miss Rate 77.8%. Seven (7) Candidates chose A, two (2) chose correct answer. Question dealt with consequences of a loss of the 2A DC Bus. Part 1) evaluated knowledge of the impact on the #2 EDG output breaker; distracter based on confusing EDG output breaker control power from the EDG DC distribution. Part 2) tests impact on Main Generator excitation; distracter based on confusing with the opposite DC bus.

Question is acceptable, because knowledge of major DC bus loads is required, and is also in accordance with key steps in 2-AP-10.06. No change required.

Question: 49

Given the following:

- Unit 1 is at 100%.
- Annunciator 1C-F6, EDG 1 TRBL, has just been received.
- The field operator reports the following from the #1 EDG Room:
 - The LOW AIR PRESSURE light is LIT at the local control panel.
 - Bank 1 Air pressure is 190 psig and stable.
 - Bank 2 Air pressure is 160 psig and stable.
 - The supply breaker for the #2 Air Compressor motor for EDG #1 is tripped.

Based on the event, which ONE of the following completes both statements?

- 1) Bank 2 starting air ___(1)___ sufficient to start EDG #1 if an auto start signal occurred.
- 2) To restore Bank 2 starting air, the field operator can ___(2)___.

- A. 1) is
2) open the cross connect valve between air banks
- B. 1) is not
2) immediately start the Lister diesel
- C. 1) is not
2) open the cross connect valve between air banks
- D. 1) is
2) immediately start the Lister diesel

Proposed answer: A

Analysis: Question Miss Rate 55.6%. Four (4) Candidates chose C, one (1) chose D, four (4) chose correct answer. Question dealt with EDG starting air system. Part 1) evaluated knowledge of the required bank air pressure required to support EDG starting; distracter based on confusing the minimum required pressure. Part 2) tests starting air system operation; distracter based on a viable source of air pressure, but only after belts are swapped to couple the Lister Diesel to the compressor.

Question is acceptable, because the setpoint is listed in the EDG trouble ARP, and because the status of the Lister Diesel is required operational knowledge. No change required.

Question: 67

Given the following:

- Unit 1 is at 25% power.
- Unit 1 is preparing to perform SI Accumulator recirculation and sampling per 1-OP-SI-002, SAFETY INJECTION ACCUMULATORS.
- Administrative control will be required for two manual valves, both located in the Auxiliary Building.

Which ONE of the following completes the following statements in accordance with SUADM-O-26, ADMINISTRATIVE CONTROL OF OPERATIONAL COMPONENTS, and 1-OP-SI-002?

- 1) One operator __ (1) __ permitted to be assigned administrative control of both manual valves.
 - 2) It __ (2) __ acceptable for an operator assigned to the Fire Team to also have an administrative control function.
- A. 1) is NOT
2) is NOT
 - B. 1) is NOT
2) is
 - C. 1) is
2) is NOT
 - D. 1) is
2) is

Proposed answer: B

Analysis: Question Miss Rate 88.9%. Seven (7) Candidates chose A, one (1) chose C, one (1) chose correct answer. Question dealt with Administrative control requirements for SI Accumulator recirc and sampling. Part 1) evaluated knowledge of 1-OP-SI-002 precautions and limitations and SUADM-O-26 regarding one control action per admin control person; distracter based on the longer time requirement for one of the listed valves. Part 2) tests and 1-OP-SI-002 precautions and limitations, as well as SUADM-O-26 requirements; distracter based on choosing the most conservative answer.

Question is acceptable, because these requirements are stated in both 1-OP-SI-002 and SUADM-O-26. No change required.

Question: 69

Given the following:

- Unit 1 is at 32% power and shutting down per 1-GOP-2.1, UNIT SHUTDOWN to LESS THAN 30%, for refueling outage.
- The BOP is preparing to transfer station Electrical Service from Normal to Reserve in accordance with Attachment 6, "Transferring to RSS Supply".
- No other reactor operators are available for a peer check.

Which ONE of the following completes both statements?

- 1) OP-AA-100, Conduct of Operations __ (1) __ contain an allowance to perform a control room manipulation without a peer check from another reactor operator during normal or routine operations activities.
 - 2) If the transfer was performed incorrectly by opening the Station Service Norm Sup Bkr 15C2 prior to closing Reserve Sup Bkr 15C1 the reactor __ (2) __ required to be manually tripped.
- A. 1) does NOT
2) is NOT
 - B. 1) does
2) is
 - C. 1) does
2) is NOT
 - D. 1) does NOT
2) is

Proposed Answer: B

Analysis: Question Miss Rate 66.67%. Five (5) Candidates chose D, one (1) chose A, three (3) chose correct answer. Question dealt with peer check requirements per OP-AA-100, and whether the reactor is required to be manually tripped following a loss of a Station bus while below P8. Part 1 specifically asked if there is an allowance in OP-AA-100 to perform a manipulation without a peer check. Part 2 poses a scenario whereby a breaker switching evolution is performed out of sequence. The candidate needs to evaluate the effect on this mis-operation (loss of station bus) and whether a manual reactor trip is required because in this case the reactor will NOT automatically trip.

Question is acceptable because OP-AA-100, ATT 3 contains the requirement for overt supervisory oversight (Part 1). Both GOPs and associated ARPs contain requirements for tripping the reactor if < 3 RCPs.

Question 70

Given the following:

- 1B Waste Gas Decay Tank (WGDT) is in service on the “A” oxygen analyzer.
- Preparations are being made to place the “B” WGDT on holdup for release in accordance with OP-23.2.1, PUTTING WGDT 1B ON HOLDUP AND WGDT 1A IN SERVICE.
- Initial Hydrogen concentration in “B” WGDT is 8.1%.
- “B” WGDT pressure is 115 psig.
- Annunciator 0-WD-D9, WASTE GAS DECAY TANKS HI O2, is LIT and verified at the alarm setpoint.

Which ONE of the following completes both statements?

- 1) In accordance with OP-23.2.1, release of “B” WGDT __ (1) __ permitted.
- 2) In accordance with TS 3.11.B, Gas Storage Tanks, the maximum curie content in each gas storage tank is limited to a maximum of __ (2) __ in order to limit the total body exposure to an individual at the exclusion boundary.

- A.
 - 1) is
 - 2) 24,600 curies
- B.
 - 1) is NOT
 - 2) 24,600 curies
- C.
 - 1) is
 - 2) 12,300 curies
- D.
 - 1) is NOT
 - 2) 12,300 curies

Proposed Answer: A

Analysis: Question Miss Rate 100%. All nine (9) candidates chose B. No one chose the correct answer (A). This is one of two questions on the exam that had a 100% Miss rate (70,80). After a thorough review of the question, we believe there is a flaw in the question. Part 1 provides a condition (Hi H2) that the referenced procedure doesn't provide guidance for. We recommend changing the answer to “B”. (See Post exam comments)

Question: 72

Which ONE of the following completes both statements in accordance with VPAP-2101, Radiation Protection Program?

- 1) The RWP for performing Operator log rounds in the Auxiliary Building is an example of a ___(1)___ RWP.
 - 2) A ___(2)___ RWP is used for the hanging of caution tag(s) to prevent inadvertent RCS dilution per 1-GOP-2.2, UNIT SHUTDOWN, LESS THAN 30 % TO HSD.
- A. 1) General
 2) Specific
 - B. 1) Specific
 2) Specific
 - C. 1) General
 2) General
 - D. 1) Specific
 2) General

Proposed answer: C

Analysis: Question Miss Rate 55.6%. Five (5) Candidates chose A, two (2) chose correct answer. Question dealt with VPAP-2101 applicability of general and specific RWPs. Parts 1) and 2) evaluated knowledge of the type of RWP used for two different tasks; distracter based on confusing the applicability of each RWP type. The question tests the candidates' understanding of the difference between a General and Specific RWP. In the question both parts involve routine tasks, therefore a general RWP is required. A Specific RWP would be needed if radiological conditions are subject to significant change.

Question is acceptable, because these requirements are stated in VPAP-2101. No change required.

SRO EXAM:

Question: 80

Initial Conditions:

- Unit 1 is at Hot Shutdown, Unit 2 is shutdown with fuel offloaded.
- Today is Wednesday.
- 1410: Annunciator 1D-G5, SW OR CC PPS DISCH TO CHRГ PPS LO PRESS is in alarm.
- The crew enters 0-AP-12.00, SERVICE WATER SYSTEM ABNORMAL CONDITIONS.

Current Conditions (10 minutes later):

- The RO starts recording Unit 1 operating CHG pump bearing temperatures.
 - 1420 = 170 °F
 - 1430 = 175 °F
 - 1440 = 180 °F
 - 1450 = 185 °F
 - 1500 = 190 °F
- 1500: All Unit 1 Charging pumps are declared inoperable.

Based on the current conditions which ONE of the following answers the questions below?

- 1) In accordance with 0-AP-12.00, the earliest time the operating charging pump is required to be shifted is __(1)___.
- 2) The latest time Unit 1 is required to be in Cold Shutdown is __(2)___.

- A.
 - 1) 1440
 - 2) Friday at 0300
- B.
 - 1) 1450
 - 2) Thursday at 2100
- C.
 - 1) 1450
 - 2) Friday at 0300
- D.
 - 1) 1440
 - 2) Thursday at 2100

Analysis: Question Miss Rate 100%. Four (4) candidates chose B, one candidate chose C. This is one of two questions on the exam that had a 100% Miss rate (70,80). In Part 1 the questions tests the applicants' knowledge of when the charging pump is required to be shifted. Part 2 requires the applicants to determine when the Unit is required to be in Cold Shutdown. We believe there is considerable ambiguity in the referenced procedure (0-AP-12.00). We recommend removing this question from the exam (see Post Exam Comments)

Question: 94

Per LI-AA-700, Fatigue Management and Work Hour Limits for Covered Workers, which ONE of the following completes the statements below?

- 1) During online operations, and without issuance of a waiver, ensure the individual does not work more than weekly average of __ (1) __ hours over a 6-week period.
- 2) The Operations Shift Manager __ (2) __ requisite signature authority to sign for Approval of Attachment 2, 10 CFR 26 Limits Waiver.

- A.
 - 1) 72
 - 2) has
- B.
 - 1) 54
 - 2) has
- C.
 - 1) 54
 - 2) does NOT have
- D.
 - 1) 72
 - 2) does NOT have

Proposed Answer: C

Analysis: Question Miss Rate 80%. Three (3) candidates chose B, one candidate chose D, one candidate chose the correct answer. The question tests the understanding of LI-AA-700, Fatigue Management. Part 1 tests the specific allowed weekly average. Part 2 test whether the SM has requisite signature authority. The SM only has signature authority if specified by Site VP. No change is required.

Question: 99

Initial Conditions:

- Unit 1 was at 100%.
- A Reactor Trip and Safety Injection occurred.
- A field operator reports water and steam coming from the Unit 1 Safeguards Valve Pit door.
- The team entered 1-E-0, REACTOR TRIP OR SAFETY INJECTION.
- The Assistant RO performed Attachment 1, SYSTEM ALIGNMENT VERIFICATION.
- At Attachment 1 Step 12, CHECK SI FLOW, Safety Injection was reset.

Current Conditions:

- The SRO incorrectly transitioned from 1-E-0, to 1-E-1, LOSS OF REACTOR OR SECONDARY COOLANT.
- The team is at 1-E-1, Step 2, CHECK IF SGs ARE NOT FAULTED.
- The SRO identifies that the team should be in 1-ECA-1.2, LOCA OUTSIDE CONTAINMENT.
- A Safety Injection re-initiation occurs.

Which ONE of the following completes both statements in accordance with OP-AP-104, EMERGENCY AND ABNORMAL OPERATING PROCEDURES?

- 1) After the SRO exited 1-E-0, the team ____ (1) ____ permitted to reset SI again, using Step 12 of 1-E-0 Attachment 1.
 - 2) In order to transition to 1-ECA-1.2, from 1-E-1 step 2, the SRO should ____ (2) ____ .
- A. 1) is NOT
2) go directly to 1-E-1, step 18, INITIATE EVALUATION OF PLANT STATUS
 - B. 1) is
2) go directly to 1-E-1, step 18, INITIATE EVALUATION OF PLANT STATUS
 - C. 1) is NOT
2) go to 1-ES-0.0, REDIAGNOSIS
 - D. 1) is
2) go to 1-ES-0.0, REDIAGNOSIS

Proposed Answer: D

Analysis: Question Miss Rate 60%. Three (3) candidates chose C, two chose the correct answer. Part 1 requires the applicant's to determine if SI is required to be reset then step 12 of E-0 Attachment 1 is to be used. This was based on the belief that Notes and Cautions carry forward when transitioning to other EOP procedures based on OP-AP-104 guidance. The answer is wrong because OP-AP-104 only allows continuous actions statements to carry forward, NOT Notes and Cautions. We believe the correct answer is C (See Post Exam Comments). We recommend changing the answer from D to C.

Enclosure 5

Seating Chart

2021 NRC EXAM SEATING CHART

RO
*Paddock

RO
Russell

SRO
Christenbury

SRO
Tampas

RO
Owens

SRO
Clement

RO
Rister

SRO
Archer

SRO
Pollard

*Matt Paddock was in a separate room.

Enclosure 7

ES-201-3, Examination Security Agreement

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the U.S. Nuclear Regulatory Commission (NRC) licensing examinations scheduled for the week(s) of 8/23/21 and 8/30/21 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's 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's 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 8/23/21 and 8/30/21. 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. W. Joe Ford	Lead Exam Author		08/19/20		9/3/21	
2. Mike Meyer	Exam Author		08/19/20		9/3/21	
3. Christopher G. Huth	Simulator Software		8/19/20		9/7/21	
4. SEAN LOCASIO	Simulator OPS.		8/19/20		9/7/21	
5. FRANK PACE	SIMULATOR HARDWARE		8/19/20		9/7/21	
6. AARON D. BROWN	SIMULATOR SOFTWARE		17 AUG 2020		08 Sept 21	
7. Jeff Chapin	LORP Exam Author		8/19/20		9/7/21	
8. Jessie Soto	OFF-SHIFT SM		9/29/20		9/7/21	
9. Jeremy Riddick	Instructor / STA		9/30/20		9/7/21	
10. Geoffrey Hill	Manager - Training		9/30/20		9/7/21	
11. Charlene Stump	Senior Graphic Designer		10/14/20		9/14/21	
12. RICH PHILPOT	EP/LICENSING MANAGER		1/12/21		2/7/21	
13. Kevin Cabot	EP Specialist		1/22/21		8/2/21	
14. Doug Waldren	On Shift SRO/STA		2/16/21		9/9/21	
15. Kenneth Unikel	SRO/STA/Off Shift		2/19/21		9/9/21	

per Telecomm

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PRINTED NAME	JOB TITLE/RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1. J. Burley	Control room operator		2/23/21		9/10/21	
2. N. King	Unit Supervisor		3/2/21		9-10-21	
3. J. Elmore	Control room operator		3-2-21		9-7-21	
4. B. Burch	Control room operator		3/9/21		9/8/21	
5. S. M. Jahan	Unit Supervisor		3/9/21		9/8/21	
6. S. Casey	Control Room Operator		3/9/21		9/8/21	
7. P. LEDFORD	UNIT SUPERVISOR		3/9/21		9/8/21	
8. Bonnie Jurewicz	Ops Assessor PIKT		3/17/21		9/7/21	
9. Clint Cyr	Unit Supervisor		3/23/21		9/16/21	
10. Bob J. J. J. J.	CONTROL ROOM OPERATOR		3/23/21		9/17/21	
11. CHRIS MCKNIGHT	UNIT SUPERVISOR		5/11/21		9/10/21	
12. Daniel V. Gonzalez	Reactor Operator		5/11/21		9-7-21	
13. Joshua Barttels	Reactor Operator		5/11/21		9/7/21	
14. Mike Trull	LICENSING		5/11/21		9/8/21	
15. I. Goodman	Reactor Operator		5/19/21		9/10/21	

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PRINTED NAME	JOB TITLE/RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1. Steven Owen	Instructor		5/20/21		9/7/21	
2. Jason Sweatman	Instructor		6/2/21		9/7/21	
3. Dan Owen	Control Room Operator		6/2/21		9/8/21	
4. DANIEL ARNEW	REACTOR ENG.		6/16/21		9/7/21	
5. ERIC WATSON	REACTOR OPERATOR		6-29-21		9-3-21	
6. Rob Lewis	Senior Reactor Operator		6/29/21		9/3/21	
7. Ed Gm	SRO		7/13/21		9/6/21	
8. Matt Cowgys	RO		7/13/21		9/8/21	
9. Ian Goodman	RO		7/13/21		9/8/21	
10. Kevin Bessanoy	RO		7-19-21		9/3/21	
11. Robert Young	Instructor		7/19/21		9/7/21	
12. Rodney Adams	SRO		7/21/21		9/8/21	
13. JAMES DWILEY	RO		7/21/21		9/7/21	
14. Daniel Mark	SRO		7-21-21		9-7-21	
15. Allen Harrison	RO		7-21-21		9-9-21	

(Previously signed on ES-201-3)

Signature for A.H. for telecon

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1. <u>R BOWEN</u>	<u>NUCLEAR INSTRUCTOR</u>	<u>R Bowen</u>	<u>8/20/21</u>	<u>R Bowen</u>	<u>9/7/21</u>	
2. <u>TIM GREEN</u>	<u>ASST OPS MANAGER</u>	<u>Tim Green</u>	<u>8/22/21</u>	<u>Tim Green</u>	<u>9/9/21</u>	
3. <u>C. Irwin</u>	<u>SUPV-NUC trs</u>	<u>C Irwin</u>	<u>8/20/21</u>	<u>C Irwin</u>	<u>9-3-21</u>	
4. <u>M. Hancock</u>	<u>ILT INSTRUCTOR</u>	<u>M Hancock</u>	<u>8/23/21</u>	<u>M Hancock</u>	<u>9-3-21</u>	
5. <u>BRIAN BECKER</u>	<u>ILT INSTRUCTOR</u>	<u>Brian Becker</u>	<u>8/23/21</u>	<u>Brian Becker</u>	<u>9/3/21</u>	
6. <u>Regina Irwin</u>	<u>FOOD</u>	<u>Regina Irwin</u>	<u>8/23/21</u>	<u>Regina Irwin</u>	<u>9/8/21</u>	
7. <u>TODD YOUNG</u>	<u>INST.</u>	<u>Todd Young</u>	<u>9/23/21</u>	<u>Todd Young</u>	<u>9/23/21</u>	
8. <u>WILLIAM MARSHALL</u>	<u>INST.</u>	<u>William Marshall</u>	<u>9/3/21</u>	<u>William Marshall</u>	<u>9/3/21</u>	
9. <u>TODD YOUNG</u>	<u>INST.</u>	<u>Todd Young</u>	<u>9/7/21</u>	<u>Todd Young</u>	<u>9/7/21</u>	
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