

EXAM ASSIGNMENT TICKLER

Chief:	Mike Kennard	Facility:	NA	Date of Written Exam:	6/15/2022
U/I:		Start of Op Test:	6/6/2022	End of Op Test:	6/10/2022
Written Exam Developed By: Facility			Operating Test Developed By: Facility		
Due Date	Description	Date Complete	Initials	Notes	
10/4/2021	Examination administration date confirmed	6/25/2021	mnk	For NRC prepared exams, arrangements made for the facility to submit reference materials	
11/8/2021	NRC examiners and facility contact assigned	6/25/3021	mnk		
11/8/2021	Facility contact briefed on security and other requirements	6/25/2021	mnk		
11/8/2021	Reference material due for NRC prepared exams	N/A		ES-201 Att-3	
11/8/2021	Corporate Notification Letter sent	10/29/2021	mnk	ES-201 Att-4 produced by CE	
11/22/2021	NRC developed written examination outline sent to facility contact	6/30/2021	mnk	ES-401-1/2 and ES-401-3	
1/3/2022	Operating test outline(s) and other checklists due	1/6/2022	mnk	ES-201-2, 201-3, 301-1, 301-2, 301-5, D-1	
1/17/2022	Operating test outline(s) reviewed by NRC and feedback provided to facility licensee	1/6/2022	mnk	ES-201-2 signed by CE & BC	
3/21/2022	Proposed exams, outlines, supporting documentation, and reference materials due.	3/14/2022	mnk	Exams prepared by the NRC are approved by BC and forwarded for facility licensee review	
3/28/2022	Peer review of written exam complete	3/30/2022	mnk	Document review on ES-401-9	
4/18/2022	Written exam and operating test reviews completed	3/30/2022	mnk	Document review on ES-401-9	
5/2/2022	Feedback approved by Branch Chief	3/31/2022	mnk		
5/2/2022	Examination review results discussed between NRC and facility licensee	4/14/2022	mnk		
5/9/2022	Preliminary license applications & waiver/excusal requests due	5/1/2022	mnk	NRC Forms 398/396	
5/2/2022	On-site validation & 10% audit of license applications	5/2/2022	mnk		
5/16/2022	Preliminary license applications and waivers reviewed		mnk		
5/23/2022	Final license applications & waiver/excusal requests due		mnk	ES-201-4 prepared by LA	
5/30/2022	Written exams and operating tests approved by Branch Chief		mnk		
5/30/2022	Request facility licensee management feedback on the exam	5/26/2022	mnk		
5/30/2022	Final applications reviewed and audited; exam approval and waiver/excusal letters sent		mnk	LA produces / BC signs Exam Approval Letter (ES-201 Att-5)	
5/30/2022	Proctoring/written exam administration guidelines reviewed with facility licensee	5/26/2022	mnk		
5/30/2022	Approved scenarios and JPMs distributed to examiners	5/26/2022	mnk		
6/6/2022	Administer Operating Test	6/6/2022	mnk		
6/17/2022	Examiner's document op test results on ES 303's	6/17/2022	mnk		
7/5/2022	Post exam comments and graded exams received	7/8/2022	mnk	ES-403-1 to BC	
7/13/2022	Post exam written comments reviewed and incorporated and NRC grading completed	7/13/2022	mnk		
7/13/2022	Post exam operating test comments reviewed and ES-303-1 updated	7/13/2022	mnk		
7/20/2022	Chief examiner review of operating test and/or written exam grading completed	7/20/2022	mnk	Signed ES 303's to BC	
7/27/2022	Branch Chief review of exam results completed	7/21/2022	mnk		
8/3/2022	Waivers/deferrals reviewed for impact on licensing decision	7/25/2022	mnk		
8/3/2022	License/Proposed Denial letters mailed; Facility notified of results	7/25/2022	mnk		
8/3/2022	RPS/IP number of examinees updated	7/25/2022	mnk	print Report-21	
8/24/2022	Final Denial Letters mailed (if no request for informal review)	8/19/2022	mnk	21 days after proposed denial letters mailed.	
8/31/2022	Examination Report Issued	8/19/2022	mnk	produced by CE	
9/7/2022	Ref Mat'l Returned after Final Resolution of Appeals	8/19/2022	mnk		
10/5/2022	SUNSI checklist complete and exam docs to ADAMS	8/26/2022	mnk	SUNSI checklist to LA	
Replaces NUREG-1021, Revision 11, Forms ES-201-1 and ES-501-1					

Form 2.3-1 Examination Outline Quality Checklist

Facility: North Anna Power Station		Date of Examination: 06/2022		
Item	Task Description	(Y)es / (N)o		
		a	b*	c#
WRITTEN	a. The outline was systematically and randomly prepared in accordance with the instructions in Section B of ES-4.1, and all knowledge and ability (K/A) categories are appropriately sampled.	Yes	Yes	mak
	b. The outline does not overemphasize any systems, evolutions, or generic topics.	Yes	Yes	mak
	c. Justifications for deselected or rejected K/A statements are acceptable.	Yes	Yes	mak
SIMULATOR	a. Using Form 3.4-1, Events and Evolutions Checklist, verify that the proposed scenario set contains the required number of normal evolutions, reactivity evolutions, instrument and component failures, manual control evolutions, technical specifications, and major transients.	Yes	Yes	mak
	b. There are enough scenarios (and spares) for the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity. Ensure that scenarios will not be repeated on subsequent days.	Yes	Yes	mak
	c. Ensure that all scenarios are new or significantly modified in accordance with ES-3.4 and that no scenarios are duplicated from the applicants' audit test(s).	Yes	Yes	mak
	d. To the extent possible, assess whether the outline(s) conforms with the qualitative and quantitative simulator set criteria specified on Form 2.3-2.	Yes	Yes	mak
JPMS	a. Verify that the administrative outline meets the criteria specified in the instructions on Form 3.2-1 and that no tasks are duplicated from the applicants' audit test(s).	Yes	Yes	mak
	b. Verify that the control room and in-plant systems outline meets the criteria specified in the instructions on Form 3.2-2 and that no tasks are duplicated from the applicants' audit test(s).	Yes	Yes	mak
	c. Determine whether the number of job performance measures (JPMs) and JPM types is sufficient for the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.	Yes	Yes	mak
GENERAL	a. Assess whether the appropriate exam sections cover plant-specific priorities (including probabilistic risk assessment and individual plant examination insights).	Yes	Yes	mak
	b. Assess whether the 10 CFR 55.41, 10 CFR 55.43, and 10 CFR 55.45 sampling is appropriate.	Yes	Yes	mak
	c. Check whether K/A importance ratings (except for plant-specific priorities) are greater than or equal to 2.5.	Yes	Yes	mak
	d. Check for duplication and overlap across the exam and with the last two NRC exams.	Yes	Yes	mak
	e. Check the entire exam for balance of coverage.	Yes	Yes	mak
	f. Assess whether the exam fits the appropriate job level (reactor operator or senior reactor operator).	Yes	Yes	mak

a. Author	Printed Name/Signature	Date
b. Facility Reviewer (*)	Andrew Brust / Todd Fulton	1/5/2022
c. NRC Reviewer (#)	Michael Kennard	1/5/2022
NRC Chief Examiner	Michael N. Kennard	
NRC Supervisor	Small J. McCarty	3/21/2022

* The facility licensee signature is not applicable for NRC-developed tests.
An independent NRC reviewer performs the steps in column "c." This may be the NRC Chief Examiner if he/she did not develop the outline under review.



Examination Security Agreement

TR-AA-710 – Attachment 3

Page 1 of 1

1. Pre-Examination

I acknowledge I have acquired specialized knowledge about the examination scheduled for the week(s) indicated in this agreement as of the date of my signature and agree that I will not knowingly divulge any information about this examination to any unauthorized persons.

I further understand that violation of the conditions of this agreement may result in cancellation of the examination and/or disciplinary action against me.

2. Post-Examination

I did not, to the best of my knowledge, divulge any information concerning the examination(s) administered during the week(s) indicated to any unauthorized persons.

INITIAL LICENSE CLASS 20-1 NRE EXAM (6-6-2022 — 6-24-2022)

Examination Period: 6-24-2021 to 9-30-2022

Printed Name	Pre-Examination Certification (1) Signature	Date	Post-Examination Certification (2) Signature	Date
CARL HICKMAN	<i>[Signature]</i>	6-24-2021	<i>[Signature]</i>	6-21-22
Andrew Brust	<i>[Signature]</i>	6/24/21	<i>[Signature]</i>	6/16/22
Mike Nicholas	<i>[Signature]</i>	8/11/21	<i>[Signature]</i>	6/21/22
Todd Fulton	<i>[Signature]</i>	8/12/21	<i>[Signature]</i>	6/21/22
Spears, Doug	<i>[Signature]</i>	8-12-21	<i>[Signature]</i> via email	6/21/22
Jon P. Llanos	<i>[Signature]</i>	9-2-21	<i>[Signature]</i>	6/21/22
KEVIN BUEVINS	<i>[Signature]</i>	12/2/21	<i>[Signature]</i>	6/16/22
JASON RUSSON	<i>[Signature]</i>	12/3/21	<i>[Signature]</i>	6/16/22
MARC THOMANN	<i>[Signature]</i>	12/17/21	<i>[Signature]</i>	6/22/22
Stewart Purvis	<i>[Signature]</i>	1/3/22	<i>[Signature]</i>	6/16/22
KHANH LE	<i>[Signature]</i>	1/06/22	<i>[Signature]</i>	6/16/22



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Initial License Class 20-1 NRC Exam (6-6-2022 - 6/24/2022)

Examination Period: 6-24-2021 to 9-30-2022

Printed Name	Pre-Examination Certification (1) Signature	Date	Post-Examination Certification (2) Signature	Date
Timothy Morris		1/12/22		6/22/22
MATT FADEN		1/13/22	via email	6/21/22
Josh Tew		1/18/22	via email	6/22/22
Jason Weber		1-18-22		6-21-22
Adam Thomas		1/19/22		6/22/22
Chris Fiedler		1/21/22	via email	6/21/22
Mike Hough		1/21/22		6/10/22
Chris Standig		2/3/22		6/21/22
Dorian B. Skiles		2/3/22		6/16/22
SHARAN KUMAR		02/07/22		06/16/22
Brian Spicer		2/11/22		6/22/22



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Initial License Class 20-1 NRC Exam (6-6-2022 to 6-24-2022)

Examination Period: 6-24-2021 to 9-30-2022

Printed Name	Pre-Examination Certification (1) Signature	Date	Post-Examination Certification (2) Signature	Date
Janette Bullock		2-10-22		6-21-22
Nigel Manning		2/12/22	LL BT via email	6/22/22
DAVID BUCKWATER		2/22/2022	LL BT via email	6/22/22
CHRISTIE ROSS		2/28/2022		6/21/22
Susie Anhold		3/9/22		6/16/22
Joshua Hader		3/11/22	LL BT via email	6/21/22
JEFF TOWLE		3/13/22	LL BT via email	6/21/22
W. Joe Ford		3/17/22	LL BT via email	6/21/22
MATT GOMES		4/14/22		6/16/22
Ben Schrum		4/18/22		6/21/22
BENJAMIN CHANG		5/2/22		6/16/22



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Initial License Class 20-1 NRC Exam (6-6-2022 to 6-24-2022)

Examination Period: 6-24-2021 to 9-30-2022

Printed Name	Pre-Examination Certification (1) Signature	Date	Post-Examination Certification (2) Signature	Date
DIEDERICHS IN	<i>[Signature]</i>	5-2-22	<i>[Signature]</i>	6/22/22
Catherine Purgason	<i>[Signature]</i>	5-2-2022	<i>[Signature]</i>	6/21/2022
Thomas Shalowski	<i>[Signature]</i>	5-4-22	<i>[Signature]</i>	6/21/22
Karen R. Knight	<i>[Signature]</i>	5 MAY 2022	<i>[Signature]</i>	20 JUNE 22
Mary C. ONeil	<i>[Signature]</i>	5 MAY 22	<i>[Signature]</i>	21 JUNE 22
John E. Bowles	<i>[Signature]</i>	5-2-22	<i>[Signature]</i>	6-16-22
Arthur L. Petcher	<i>[Signature]</i>	6-6-22	<i>[Signature]</i>	6-20-22
David A. Spana	<i>[Signature]</i>	6/6/22	<i>[Signature]</i>	6/28/2022
TRAVIS HILL	<i>[Signature]</i>	6/7/22	<i>[Signature]</i>	6/16/22

Form 2.3-2 Operating Test Quality Checklist

NORTH Anna

June 2022

<p>a. Each job performance measure (JPM) includes the following, as applicable:</p> <ul style="list-style-type: none"> task standard initial conditions initiating cues references and tools, including associated procedures reasonable and validated time limits (average time allowed for completion) and specific designation if the facility licensee deems it to be time critical alternate path JPMs are labeled as "alternate path" operationally important specific performance criteria that include the following: <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 JPM task standard identification of critical steps and their associated performance standards restrictions on the sequence of steps, if applicable 	all	9C	mk
<p>b. Ensure that any changes from the previously approved JPM outlines (Forms 3.2-1 and 3.2-2) 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.</p>	all	9C	mk
<p align="center">Simulator Scenario Set Criteria for Scenario Numbers: 1 / 2 / 3</p>			
<p>QUALITATIVE ATTRIBUTES</p>			
<p>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.</p>	all	9C	mk
<p>2. The scenarios consist mostly of related events.</p>	all	9C	mk
<p>3. Each event description consists of the following:</p> <ul style="list-style-type: none"> 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) 	all	9C	mk
<p>QUALITATIVE ATTRIBUTES (continued)</p>	(Y)es / (N)o		
	a	b*	c#
<p>4. The events are valid with regard to physics and thermodynamics.</p>	all	9C	mk
<p>5. The sequencing and timing of events is reasonable and allows the examination team to observe and evaluate applicant performance.</p>	all	9C	mk
<p>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.</p>	all	9C	mk
<p>7. The simulator modeling is not altered.</p>	all	9C	mk
<p>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.</p>	all	9C	mk
<p>9. Scenarios are new or significantly modified in accordance with ES-3.4.</p>	all	9C	mk
<p>10. Scenarios (as grouped) allow each applicant to be significantly involved in the minimum number of transients, events, and evolutions specified on the version of Form 3.4-1 submitted with the scenario set.</p>	all	9C	mk

11. Applicants are evaluated on a similar number of preidentified critical tasks across scenarios, when possible.				
12. The level of difficulty is appropriate to support licensing decisions for each crew position.				
TARGET QUANTITATIVE ATTRIBUTES per Scenario (See ES-3.4)	Actual Attributes by Scenario No. 1 2 3	(Y)es / (N)o		
		a	b*	c#
1. Malfunctions after emergency operating procedure (EOP) entry (1-2)	3 1 3 1 6			
2. Abnormal events (2-4)	5 1 4 1 2			
3. Major transients (1-2)	1 1 2 1 1			
4. EOPs entered/requiring substantive actions (1-2)	3 1 2 1 1			
5. Entry into a contingency EOP with substantive actions (≥ 1 per scenario set; set is the entire set of scenarios prepared for the scheduled exam)	0 1 1 1 0			
6. Preidentified critical tasks (≥ 2)	2 1 2 1 3			

	Printed Name/Signature	Date
a. Author	Andrew Brunt / <i>Andrew Brunt</i>	5/17/2022
b. Facility Reviewer (*)	Todd Fulton / <i>Todd Fulton</i>	5/17/2022
c. NRC Reviewer (#)	MICHAEL KENNARD / <i>MICHAEL KENNARD</i>	5/23/2022
NRC Chief Examiner	MICHAEL KENNARD / <i>MICHAEL KENNARD</i>	5/23/2022
NRC Supervisor	Gerald J. McCoy / <i>Gerald J. McCoy</i>	5/24/2022

* The facility licensee signature is not applicable for NRC developed tests.

An independent NRC reviewer performs the steps in column c. This may be the NRC Chief Examiner if he/she did not develop the operating test under review.

Operating Test Review Worksheet

Form ES2.3-3

Facility: North Anna													Exam Date: 6/6/2022	
Admin	JPMs	1 ADMIN Topic and K/A	2 LOD (1-5)	3 Attributes						4 Job Content		5 U/E/S	6 Explanation	
				I/C Focus	Cues	Critical Steps	Scope (N/B)	Overlap	Perf. Std.	Key	Minutia			Job Link
	SRO A1	G2.1.18	2										E	Add to the cue after approve or disapprove completed 1LOG-20 "and identify if any required actions" Complete
	SRO A2	G2.1.37	1		X								U	Does not meet license level this could be a JPM to have a second RO verify the correct addition. Simply approving or disapproving the add does not seem to rise to the level of SRO only. Also just by giving a SRO something to approve seems like they would assume that they cannot approve it as it is a JPM and they need to be able to find something. Facility is swapping JPM to get an SRO level JPM Complete
	SRO A3	G2.2.41	2		X								U	Does not meet license level this could be a JPM to have a second RO verify the isolations. Simply approving or disapproving the add does not seem to rise to the level of SRO only. Also just by giving a SRO something to approve seems like they would assume that they cannot approve it as it is a JPM and they need to be able to find something. Complete
	SRO A4	G2.3.14	2										E	Lets get the numbers something that is less obvious. Make it so one can do it and the other cannot. Complete
	SRO A5	G2.4.41	2										S	No comments prior to validation
	RO A1	G1.37	2										S	No comments prior to validation
	RO A2	G2.1.25	2										S	No comments prior to validation
	RO A3	G2.2.41	2										S	No comments prior to validation
	RO A4	G2.3.12	2										S	No comments prior to validation
Simulator/In-Plant JPMs	1 Safety Function and K/A													
SIM A	1 001A2.24	2											E	No Alternate path, The cue for step 9 should be. If asked the SRO will ask what they recommend and then concur with what they say. If it is acceptable to or withdraw control rods to achieve the 1.5 degrees we should let them and have it in

Operating Test Review Worksheet

Form ES2.3-3

													the guide. If it is not acceptable it would be a failure of the jpm. Complete
Sim B	2 004A4.19	2										E	Not alternate path, we can pre-brief this JPM. Is step 5 critical if flow is less than 25 gpm will it not isolate again due to temperature? Complete
SIM C	3 038EA1.04	3										E	No alternate path. Will need to see how the operator verify that < 300-degree delta t is maintained. If they fall outside of this parameter, is it a failure? Complete
SIM D	4P 005A4.01	3										E	Need to verify alternate path, Complete
SIM E	4S WE05EA1.20	3										E	Need to verify this is alternate path. If all the failures are present when the JPM starts it is not alternate path even if it uses an RNO column. A failure needs to occur during the task given requiring the applicant to identify the failure and use an alternate procedure method to deal with the issue. Alternate path did not exist facility is modifying the JPM to get alternate path Complete
SIM F	5 WE11EA1.15	2										E	Need to verify alternate path during validation. A failure needs to occur during the task given requiring the applicant to identify the failure and use an alternate procedure method to deal with the issue. Complete
SIM G	7 015A4.04	2										S	Not Alternate path, SAT pending validation Complete
SIM H	8 075A4.09	2										S	Alternate Path, Sat once verified during validation
PLANT I	1 024AA2.02	2										S	Alternate path, Sat once verified during validation
PLANT J	6 055EK3.02	2										S	Not alternate path, Sat once verified during validation
PLANT K	2 086A2.05	3										S	Not Alternate path, Sat once verified during validation

Instructions for Completing This Table:

Check or mark any item(s) requiring a comment and explain the issue in the space provided using the guide below.

1. Check each JPM for appropriate administrative topic requirements (COO, EC, Rad, and EP) or safety function requirements and corresponding K/A. Mark in column 1. (ES-301, D.3 and D.4)
2. Determine the level of difficulty (LOD) using an established 1–5 rating scale. Levels 1 and 5 represent an inappropriate (low or high) discriminatory level for the license that is being tested. Mark in column 2 (Appendix D, C.1.f)
3. In column 3, “Attributes,” check the appropriate box when an attribute is **not met**:
 - ☐ The initial conditions and/or initiating cue is clear to ensure the operator understands the task and how to begin. (Appendix C, B.4)
 - ☐ The JPM contains appropriate cues that clearly indicate when they should be provided to the examinee. Cues are objective and not leading. (Appendix C, D.1)
 - ☐ All critical steps (elements) are properly identified.
 - ☐ The scope of the task is not too narrow (N) or too broad (B).
 - ☐ Excessive overlap does not occur with other parts of the operating test or written examination. (ES-301, D.1.a, and ES-301, D.2.a)
 - ☐ The task performance standard clearly describes the expected outcome (i.e., end state). Each performance step identifies a standard for successful completion of the step.
 - ☐ A valid marked up key was provided (e.g., graph interpretation, initialed steps for handouts).
4. For column 4, “Job Content,” check the appropriate box if the job content flaw **does not meet** the following elements:
 - ☐ Topics are linked to the job content (e.g., not a disguised task, task required in real job).
 - ☐ The JPM has meaningful performance requirements that will provide a legitimate basis for evaluating the applicant's understanding and ability to safely operate the plant. (ES-301, D.2.c)
5. Based on the reviewer's judgment, is the JPM as written (U)nacceptable (requiring repair or replacement), in need of (E)nhancement, or (S)atisfactory? Mark the answer in column 5.
6. In column 6, provide a brief description of any (U)nacceptable or (E)nhancement rating from column 5.

Save initial review comments and detail subsequent comment resolution so that each exam-bound JPM is marked by a (S)atisfactory resolution on this form.

Facility: North Anna									
Scenario: 1									
Exam Date: 6/6/2022									
1	2	3	4	5	6	7	8	9	10
Event	Realism/Cred.	Required Actions	Verifiable actions	LOD	TS	CTs	Scen. Overlap	U/E/S	Explanation
1. charging pump swap							X	S	normal evolution,
2. 1MS-PT-1447 fail low					X	X		S	Instrument failure
3. main turbine bearing degrades								S	Action to trip the main turbine and reactor actually occur during event 5.
4. 1CH-MOV-1115C closed gas binding					X	X		E	CT bounding conditions should be prior to the need for charging required in event 7.
5. transformer temp>90								S	Basically, ramping the unit down to 780 MW. When turbine bearing gets bad enough to warrant a reactor trip.
6. Control rods fail to insert on trip						X		E	Need to verify critical task during validation
7. MSLB due to seismic event								S	Sat pending on site validation
7a. 1-FW-MOV-150B fails to close automatically								S	Sat pending on site validation
8. Manually actuate Phase A isolation								S	Sat pending on site validation
					2	3		0	

Facility: North Anna									
Scenario: 2									
Exam Date: 6/6/2022									
1	2	3	4	5	6	7	8	9	10
Event	Realism/Cred.	Required Actions	Verifiable actions	LOD	TS	CTs	Scen. Overlap	U/E/S	Explanation
1. Raise Power								S	Reactivity event, Sat once validated
2. Sheered Shaft 1 BC-P-1A								S	Sat once validated
3. 1-HV-AC-6 trips					X			S	No verifiable actions for RO TS only event.
4. 2SW-P-1A OC trip					X		X	S	Sat once validated
5. 1-RC-PCV-1455A fails open							X	S	Sat once validated
6. Restore power to 1J, EDG failure						X		S	Not sure this is critical. Need to validate.
7. SGTR C S/G						X		S	Sat once validated. May want to shore up the bounding conditions during prep week.
7a. SI fails to auto actuate								S	Need for SI based on a SGTR. Need to ensure that SI is required to prevent losing a safety function for the CT and would like to have a more concrete bounding criteria.
7b. 1SI P-1B fails to start automatically						X	X		If you already have o train it the other critical?
					2	3	3	0	

Facility: North Anna									
Scenario: 3									
Exam Date: 6/6/2022									
1	2	3	4	5	6	7	8	9	10
Event	Realism/Cred.	Required Actions	Verifiable actions	LOD	TS	CTs	Scen. Overlap	U/E/S	Explanation
1. Transfer bus	2							S	Sat pending validation
2. 1-EG-RV-602HB lifts	2				X			S	No RO verifiable actions TS only event, Sat pending validation
3. 1-CC-P-1A trips	2				X			S	Sat pending Validation
4. 1-CH-PT-1145 fails low	2				X			S	TS will possibly be evaluated post scenario, Sat pending validation
5. 1-CH-HCV-1201 fails to open	2					X		S	Sat pending validation,
6. LBLOCA								E	Rx trip IMA are these the verifiable actions associated with this or is ti something else as you are taking credit for the SI stuff for other malfunctions.
6a. 1-SI-MOV-1867A fails open						X			Criteria for CT-1? It would be helpful if in the write up it shows how the CT meets the criteria of the NUREG.
6b. 1-CH-P-1B fails to start									Do we have a better value for the critical task, need to verify during validation week.

7. 1- RS-E-1A tube leak						X			Need to have a real bounding criteria for CT-2 why is securing the redundant recirc pumps prior to completion to CT-2 required? This needs to be evaluated during prep week.
					3	2		0	

General comments for all CT's need to include why the CT is a CT per the NUREG in the write up. If possible, need to have a parameter for the bounding criteria for all CT's very much preferred not to be prior to transition. Should be prior to lockout of only available source of power so it does not occur. Or prior to putting water in the steam lines as the condition is not analyzed. Have hard parameters that are observable in the simulator. Additional malfunctions may be required to ensure all applicants are able to be graded.

Instructions for Completing This Table:

- 1 Use this table for each scenario for evaluation.
- 2 Check this box if the events are not related (e.g., seismic event followed by a pipe rupture) **OR** if the events do not obey the laws of physics and thermodynamics.
- 3, 4 In columns 3 and 4, check the box if there is **no** verifiable or required action, as applicable. Examples of required actions are as follows: (ES-301, D.5f)
 - opening, closing, and throttling valves
 - starting and stopping equipment
 - raising and lowering level, flow, and pressure
 - making decisions and giving directions
 - acknowledging or verifying key alarms and automatic actions (Uncomplicated events that require no operator action beyond this should **not** be included on the operating test unless they are necessary to set the stage for subsequent events. (Appendix D, B.3).)
- 5 Check this box if the level of difficulty is **not** appropriate.
- 6 Check this box if the event has a TS.
- 7 Check this box if the event has a critical task (CT). If the same CT covers more than one event, check the event where the CT started **only**.
- 8 Check this box if the event overlaps with another event on any of the last two NRC examinations. (Appendix D, C.1.f)
- 9 Based on the reviewer's judgment, is the event as written (U)nacceptable (requiring repair or replacement), in need of (E)nhancement, or (S)atisfactory? Mark the answer in column 9.
- 10 Record any explanations of the events here.

In the shaded boxes, sum the number of check marks in each column.

- In column 1, sum the number of events.
- In columns 2–4, record the total number of check marks for each column.
- In column 5, based on the reviewer's judgement, place a checkmark only if the scenario's LOD is not appropriate.
- In column 6, TS are required to be ≥ 2 for each scenario. (ES-301, D.5.d)
- In column 7, preidentified CTs should be ≥ 2 for each scenario. (Appendix D; ES-301, D.5.d; ES-301-4)
- In column 8, record the number of events not used on the two previous NRC initial licensing exams. A scenario is considered unsatisfactory if there is < 2 new events. (ES-301, D.5.b; Appendix D, C.1.f)
- In column 9, record whether the scenario as written (U)nacceptable, in need of (E)nhancement, or (S)atisfactory from column 11 of the simulator scenario table.

Facility:		Exam Date:							
Scenario	1 Event Totals	2 Events Unsat.	3 TS Total	4 TS Unsat.	5 CT Total	6 CT Unsat.	7 % Unsat. Scenario Elements	8 U/E/S	11 Explanation
1	9	0	2	0	3	0	0	S	
2	9	0	2	0	3	0	0	S	
3	9	0	3	0	2	0	0	S	

Instructions for Completing This Table:

Check or mark any item(s) requiring comment and explain the issue in the space provided.

1, 3, 5 For each simulator scenario, enter the **total** number of events (column 1), TS entries/actions (column 3), and CTs (column 5).
This number should match the respective scenario from the event-based scenario tables (the sum from columns 1, 6, and 7, respectively).

2, 4, 6 For each simulator scenario, evaluate each event, TS, and CT as (S)atisfactory, (E)nhance, or (U)nsatisfactory based on the following criteria:

- Events. Each event is described on a Form ES-D-2, including all switch manipulations, pertinent alarms, and verifiable actions. Event actions are balanced between at-the-controls and balance-of-plant applicants during the scenario. All event-related attributes on Form ES-301-4 are met. Enter the total number of unsatisfactory events in column 2.
- TS. A scenario includes at least two TS entries/actions across at least two different events. TS entries and actions are detailed on Form ES-D-2. Enter the total number of unsatisfactory TS entries/actions in column 4. (ES-301, D.5d)
- CT. Check that a scenario includes at least two preidentified CTs. This criterion is a target quantitative attribute, not an absolute minimum requirement. Check that each CT is explicitly bounded on Form ES-D-2 with measurable performance standards (see Appendix D). Enter the total number of unsatisfactory CTs in column 6.

7 In column 7, calculate the percentage of unsatisfactory scenario elements: $\left(\frac{2 + 4 + 6}{1 + 3 + 5}\right) 100\%$

8 If the value in column 7 is > 20%, mark the scenario as (U)nsatisfactory in column 8. If column 7 is ≤ 20%, annotate with (E)nhancement or (S)atisfactory.

9 In column 9, explain each unsatisfactory event, TS, and CT. Editorial comments can also be added here.

Save initial review comments and detail subsequent comment resolution so that each exam-bound scenario is marked by a (S)atisfactory resolution on this form.

Site name:			Exam Date:			
OPERATING TEST TOTALS						
	Total	Total Unsatisf.	Total Edits	Total Sat.	% Unsatisf.	Explanation
Admin. JPMs	9	2	2	5	22.2	
Sim./In-Plant JPMs	10	0	4	6	0	
Scenarios	3	0	3	0	0	
Op. Test Totals:					9.5%	

Instructions for Completing This Table:

Update data for this table from quality reviews and totals in the previous tables and then calculate the percentage of total items that are unsatisfactory and give an explanation in the space provided.

1. Enter the total number of items submitted for the operating test in the "Total" column. For example, if nine administrative JPMs were submitted, enter "9" in the "Total" items column for administrative JPMs. For scenarios, enter the total number of simulator scenarios.
2. Enter the total number of (U)nsatisfactory JPMs and scenarios from the two JPMs column 5 and simulator scenarios column 8 in the previous tables. Provide an explanation in the space provided.
3. Enter totals for (E)nhancements needed and (S)atisfactory JPMs and scenarios from the previous tables. This task is for tracking only.
4. Total each column and enter the amounts in the "Op. Test Totals" row.
5. Calculate the percentage of the operating test that is (U)nsatisfactory ($\text{Op. Test Total Unsatisf.} / \text{Op. Test Total}$) and place this value in the bolded "% Unsatisf." cell.

Refer to ES-501, E.3.a, to rate the overall operating test as follows:
 - satisfactory, if the "Op. Test Total" "% Unsatisf." is $\leq 20\%$
 - unsatisfactory, if "Op. Test Total" "% Unsatisf." is $> 20\%$
6. Update this table and the tables above with post-exam changes if the "as-administered" operating test required content changes, including the following:
 - The JPM performance standards were incorrect.
 - The administrative JPM tasks/keys were incorrect.
 - CTs were incorrect in the scenarios (not including postscenario critical tasks defined in Appendix D).
 - The EOP strategy was incorrect in a scenario(s).
 - TS entries/actions were determined to be incorrect in a scenario(s).

See attached pages for post validation comments.

Form 3.4-1 Events and Evolutions Checklist

Facility: North Anna Power Station																	Date of Exam: 6-6-22 to 6-17-22			Operating Test No.: 2022		
A P P L I C A N T	E V E N T T Y P E	Scenarios																				
		1			2			3			4			T O T A L	M I N I M U M*							
		POSITION			POSITION			POSITION			POSITION											
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P									
		RO	I	U																		
RO <input checked="" type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>	RX		2,6a	2,5						6				4	1	1	0					
	NOR		1			1	1			1				3	1	1	1					
	I/C		3,4,6	3,7a,8		5,7a	2,7b		4,6	3,7				13	4	4	2					
	MAJ		7	7		6,7	6,7		6	6				4	2	2	1					
	Man. Ctrl		2,4,6	2,7a,8		1,7,7a	1,7b		4,6b	6a				11	1	1	0					
	TS													0	0	2	2					
RO <input type="checkbox"/> SRO-I <input checked="" type="checkbox"/> SRO-U <input type="checkbox"/>	RX		2,6a	2,5						6				4	1	1	0					
	NOR	1	1		1	1	1	1		1				3	1	1	1					
	I/C	2,4,5,6,6a	3,4,6	3,7a,8	2,3,4,5	5,7a	2,7b	3,4,6a,6b,7	4,6	3,7				20	4	4	2					
	MAJ	7	7	7	6,7	6,7	6,7	6	6	6				4	2	2	1					
	Man. Ctrl		2,4,6	2,7a,8		1,7,7a	1,7b		4,6b	6a				11	1	1	0					
	TS	2,4			3,4			2,3						6	0	2	2					
RO <input type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input checked="" type="checkbox"/>	RX													0	1	1	0					
	NOR	1			1			1						3	1	1	1					
	I/C	2,4,5,6,6a			2,3,4,5			3,4,6a,6b,7						14	4	4	2					
	MAJ	7			6,7			6						4	2	2	1					
	Man. Ctrl													0	1	1	0					
	TS	2,4			3,4			2,3						6	0	2	2					

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

March 11, 2022

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. 22-064
NAPS/RAP
Docket Nos. 50-338
50-339
License Nos, NPF-4
NPF-7

Dear Ms. Dudes,

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION ENERGY VIRGINIA)
NORTH ANNA POWER STATION UNITS 1 AND 2
SUBMITTAL OF WRITTEN AND OPERATING EXAMINATIONS

NRC letter dated November 8, 2021, North Anna 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 June 6 and June 13, 2022. This letter is to inform you that the written examinations and supporting materials were transmitted on January 7, 2022, and March 22, 2022. All materials were received by the NRC by March 22, 2022.

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. Andrew Brust at (540) 894-2413.

Sincerely,



Lisa Hilbert
Site Vice President

Commitments made by this letter: None

cc: Mr. Gerald J. McCoy, Chief
Operator Licensing and Human Performance Branch
Division of Reactor Safety
United States Nuclear Regulatory Commission Region II
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, GA 30303-1257

Mr. Michael Kennard
Operator Licensing and Human Performance Branch
Division of Reactor Safety
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
North Anna Power Station

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

May 23, 2022

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. 22-170
NAPS/CNC
Docket Nos. 50-338
50-339
License Nos, NPF-4
NPF-7

Dear Ms. Dudes,

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION ENERGY VIRGINIA)
NORTH ANNA POWER STATION UNITS 1 AND 2
SUBMITTAL OF WRITTEN AND OPERATING EXAMINATIONS

NRC letter dated November 8, 2021, North Anna 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 June 6 and June 13, 2022. This letter is to inform you that the written examinations and supporting materials will be transmitted by May 25, 2022. All materials will be received by the NRC by May 25, 2022.

We request that the materials submitted to the NRC be withheld from public disclosure for two years following administration of this examination.

If you have any questions or require additional information, please contact Mr. Andrew Brust at (540) 894-2413.

Sincerely,



Lisa Hilbert
Site Vice President

Commitments made by this letter: None

cc: Mr. Thomas Stephen, Chief
Operator Licensing Branch 1
Division of Reactor Safety
United States Nuclear Regulatory Commission Region II
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, GA 30303-1257

Mr. Michael Kennard
Operator Licensing and Human Performance Branch
Division of Reactor Safety
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Document Control Desk
United States Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Senior Resident Inspector
North Anna Power Station

bc: A. L. Brust – NAPS
B. A. Chang – NAPS
T. E. Fulton – NAPS
S. W. Morris – NAPS
M. A. Hofmann – NAPS
D. R. Spears – NAPS
B. K. Ravan – NAPS
Licensing File - GOV 02-54B
Records Management - GOV 02-54B (bc original) - IN-GW

Concurrences:

M. A. Hofmann



T. E. Fulton



B. K. Ravan



Verification of Accuracy:

1. NRC Letter dated November 8, 2021, North Anna Power Station - Notification of Licensed Operator Initial Examination

Commitments (Stated or Implied) / Action Plan:

None



*Dominion Energy, Inc.
North Anna Power Station
1022 Haley Drive
Mineral, VA 23117*

January 7, 2022

Michael Kennard, Chief Examiner
U.S. Nuclear Regulatory Commission, Region II
Marquis One Tower
245 Peachtree Center Avenue N.E. Suite 1200
Atlanta, GA 30303

SUBJECT: NRC INITIAL OPERATING EXAMINATION OUTLINE

Dear Mr. Kennard,

Enclosed is the NRC Initial Operating Examination Outline for the Initial License Examination to be administered from June 6, 2022 to June 17, 2022. The 2022 class consists of 3 RO candidates, 2 SRO Instant candidates, and 4 SRO Upgrade candidates.

The following NUREG 1021 Forms are enclosed with the supporting documentation:

Forms 1.3-1, 2.3-1, 3.2-1, 3.2-2, 3.3-1, and 3.4-1

Also enclosed is a copy of the rough exam schedule, a copy of the open Simulator Work Orders, and the Simulator Fidelity report.

Please contact Andrew Brust, Stewart Purvis, or Carl Hickory at (540) 894-2413, (540) 894-2174, or (540) 894-2216 respectively if you have any questions or need any further materials.

Sincerely,

A handwritten signature in black ink, appearing to read 'Brett Ravan'.

Brett Ravan
Manager Nuclear Training
North Anna Power Station

A handwritten signature in black ink, appearing to read 'Todd Fulton'.

Todd Fulton
Supervisor Nuclear Training
Facility Reviewer
North Anna Power Station



*Dominion Energy, Inc.
North Anna Power Station
1022 Haley Drive
Mineral, VA 23117*

June 22, 2022

Michael Kennard, Chief Examiner
U.S. Nuclear Regulatory Commission, Region II
Marquis One Tower
245 Peachtree Center Avenue N.E. Suite 1200
Atlanta, GA 30303

SUBJECT: NRC INITIAL LICENSE EXAMINATION POST EXAM PACKAGE

Dear Mr. Kennard,

Enclosed is the NRC Initial License Examination Post Exam Package for the Initial License Examination that was administered from June 6, 2022 to June 15, 2022.

The following NUREG 1021 post exam package items are included:

- 1) Applicant's original written examination answer sheet and one clean copy
- 2) Master RO/SRO exam and answer keys
- 3) Candidate questions during the written examination
- 4) All examination administration comments and post examination review comments
- 5) Seating chart
- 6) Written examination performance analysis
- 7) Exam Security Agreement (Form 1.3-1 equivalent)

As of today, there are no post examination official review comments to be made on behalf of North Anna Power Station or any of the license applicants. If any official comments are made within the 20 calendar day period, we will notify you promptly.

We request that all examination material be withheld from the ADAMS database for the allowable 2 year period.

Sincerely,

A handwritten signature in black ink, appearing to read "Brett Ravan".

Brett Ravan
Manager Nuclear Training
North Anna Power Station

A handwritten signature in black ink, appearing to read "Todd Fulton".

Todd Fulton
Supervisor Nuclear Training
Facility Reviewer
North Anna Power Station