

Clayton References for 2020 USUG conference

1. Exam Security and Integrity

§ 55.49 Integrity of examinations and tests.

Applicants, licensees, and facility licensees shall not engage in any activity that compromises the integrity of any application, test, or examination required by this part. The integrity of a test or examination is considered compromised if any activity, regardless of intent, affected, or, but for detection, would have affected the equitable and consistent administration of the test or examination. This includes activities related to the preparation and certification of license applications and all activities related to the preparation, administration, and grading of the tests and examinations required by this part.

2. Simulator Rule

§ 55.46 Simulation facilities.

(a) *General.* This section addresses the use of a simulation facility for the administration of the operating test and plant-referenced simulators to meet experience requirements for applicants for operator and senior operator licenses.

(b) *Commission-approved simulation facilities and Commission approval of use of the plant in the administration of the operating test.*

(1) Facility licensees that propose to use a simulation facility, other than a plant-referenced simulator, or the plant in the administration of the operating test under §§ 55.45(b)(1) or 55.45(b)(3), shall request approval from the Commission. This request must include:

(i) A description of the components of the simulation facility intended to be used, or the way the plant would be used for each part of the operating test, unless previously approved; and

(ii) A description of the performance tests for the simulation facility as part of the request, and the results of these tests; and

(iii) A description of the procedures for maintaining examination and test integrity consistent with the requirements of § 55.49.

(2) The Commission will approve a simulation facility or use of the plant for administration of operating tests if it finds that the simulation facility and its proposed use, or the proposed use of the plant, are suitable for the conduct of operating tests for the facility licensee's reference plant under § 55.45(a).

(c) *Plant-referenced simulators.*

(1) A plant-referenced simulator used for the administration of the operating test or to meet experience requirements in § 55.31(a)(5) must demonstrate expected plant response to operator input and to normal, transient, and accident conditions to which the simulator has been designed to respond. The plant-referenced simulator must be designed and implemented so that it:

(i) Is sufficient in scope and fidelity to allow conduct of the evolutions listed in §§ 55.45(a)(1) through (13), and 55.59(c)(3)(i)(A) through (AA), as applicable to the design of the reference plant.

(ii) Allows for the completion of control manipulations for operator license applicants.

(2) Facility licensees that propose to use a plant-referenced simulator to meet the control manipulation requirements in § 55.31(a)(5) must ensure that:

(i) The plant-referenced simulator utilizes models relating to nuclear and thermal-hydraulic characteristics that replicate the most recent core load in the nuclear power reference plant for which a license is being sought; and

(ii) Simulator fidelity has been demonstrated so that significant control manipulations are completed without procedural exceptions, simulator performance exceptions, or deviation from the approved training scenario sequence.

(3) A simulation facility consisting solely of a plant-referenced simulator must meet the requirements of paragraph (c)(1) of this section and the criteria in paragraphs (d)(1) and (4) of this section for the Commission to accept the plant-referenced simulator for conducting operating tests as described in § 55.45(a) of this part, requalification training as described in § 55.59(c)(3) of this part, or for performing control manipulations that affect reactivity to establish eligibility for an operator's license as described in § 55.31(a)(5).

(d) *Continued assurance of simulator fidelity.* Facility licensees that maintain a simulation facility shall:

- (1) Conduct performance testing throughout the life of the simulation facility in a manner sufficient to ensure that paragraphs (c)(2)(ii), as applicable, and (d)(3) of this section are met. The results of performance tests must be retained for four years after the completion of each performance test or until superseded by updated test results;
- (2) Correct modeling and hardware discrepancies and discrepancies identified from scenario validation and from performance testing;
- (3) Make results of any uncorrected performance test failures that may exist at the time of the operating test or requalification program inspection available for NRC review, prior to or concurrent with preparations for each operating test or requalification program inspection; and
- (4) Maintain the provisions for license application, examination, and test integrity consistent with § 55.49.

3. Nureg-1021, Rev 11, Section ES-201, pages 21-22 have the sample corporate notification letter. In it contains the paragraph below:

“To conduct the requested written examinations and operating tests, it will be necessary for your staff to provide adequate space and accommodations in accordance with ES-402, and to make the simulation facility available on the dates noted above. In accordance with ES-302, your staff should retain the original simulator performance data (e.g., system pressures, temperatures, and levels) generated during the dynamic operating tests, along with any video and audio recordings of the dynamic operating tests, until the NRC takes licensing action on all the applications and any adjudicatory actions on any hearing demands are complete.”

Also in NUREG-1021, section ES-304, page 10, paragraph f , it states:

“The examiners must identify important plant parameters to be monitored for each simulator scenario during the onsite preparation visit. The NRC chief examiner shall ask the facility licensee simulator operator to record selected parameters, and if the facility licensee has a standard list of recorded parameters, this list will be reviewed during scenario preparation to determine whether additional parameters need to be recorded. Parameter readings shall be collected at meaningful intervals, depending on the parameter, the nature of the event, and the capability of the simulation facility. The chief examiner shall retain the recordings as backup documentation to augment the notes taken by the examiners during the simulator test until the NRC takes its licensing action on all the applications and adjudicatory actions on any hearing demands are complete.”

Facility:	Date of Exam:	Scenario Numbers: / /	Operating Test No.:		
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.				
2.	The scenarios consist mostly of related events.				
3.	Each event description consists of the following: <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) 				
4.	The events are valid with regard to physics and thermodynamics.				
5.	Sequencing and timing of events is reasonable and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.				
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.				
7.	The simulator modeling is not altered.				
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.				
9.	Scenarios are new or significantly modified in accordance with Section D.5 of ES-301.				
10.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).				
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.)				
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).				
13.	Applicants are evaluated on a similar number of preidentified critical tasks across scenarios, when possible.				
14.	The level of difficulty is appropriate to support licensing decisions for each crew position.				
Target Quantitative Attributes per Scenario (See Section D.5.d)		Actual Attributes	--	--	--
1.	Malfunctions after EOP entry (1–2)	/ /			
2.	Abnormal events (2–4)	/ /			
3.	Major transients (1–2)	/ /			
4.	EOPs entered/requiring substantive actions (1–2)	/ /			
5.	Entry into a contingency EOP with substantive actions (≥ 1 per scenario set)	/ /			
6.	Preidentified critical tasks (≥ 2)	/ /			
* 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.					



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION IV
1600 E. LAMAR BLVD
ARLINGTON, TX 76011-4511

Date

SUBJECT: STATION NAME, UNITS 1, 2, AND 3 - NOTIFICATION OF NRC INITIAL OPERATOR LICENSING EXAMINATION 05000AAA/YYYY301; 05000BBB/YYYY301; 05000CCC/YYYY301

Dear Mr. [Name]:

In a telephone conversation on (date) between Mr. / Ms. (Name, Title) and Mr. / Ms. (Name), chief examiner, arrangements were made for the administration of operator licensing examinations at (facility name) during the week(s) of (date).

As agreed during the telephone conversation, your staff [the staff of the U.S. Nuclear Regulatory Commission (NRC)] will prepare the examinations based on the guidelines in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 11. The NRC's regional office will discuss with your staff any changes that might be necessary before the examinations are administered. [Your staff will be given the opportunity to review the examinations during the week of (date).]

To meet the above schedule, it will be necessary for your staff to furnish the operating test outlines by (date). The NRC staff will provide the written examination outline by (date)/The written examination outline was provided to your staff on (date). The written examinations, operating tests, and supporting] reference materials identified in Attachment 3 to ES-201 will be due by (date). Pursuant to Title 10, Section 55.40(b)(3), of the *Code of Federal Regulations* (10 CFR 55.40(b)(3)), an authorized representative of the facility licensee shall approve the examinations, and tests before they are submitted to the NRC for review and approval. All materials shall be complete and ready-to-use.

We request that any personal, proprietary, sensitive unclassified, or safeguards information in your response be contained in a separate enclosure and appropriately marked. Delays in receiving the required materials, or the submittal of inadequate or incomplete materials, may cause the examinations to be cancelled or rescheduled. In addition, your support for on-site validation of the examinations is required during the week of (Month Day, Year).

To conduct the requested written examinations and operating tests, it will be necessary for your staff to provide adequate space and accommodations in accordance with ES-402, and to make the simulation facility available on the dates noted above. In accordance with ES-302, your staff should retain the original simulator performance data (e.g., system pressures, temperatures, and levels) generated during the dynamic operating tests along with any video and audio recordings of the dynamic operating tests until the NRC takes its licensing action on all of the applications and any adjudicatory actions on any hearing demands are complete. Appendix E to NUREG-1021 contains NRC policies and guidelines that will be in effect while the written

examinations and operating tests are being administered.

To permit timely NRC review and evaluation, your staff should submit preliminary reactor operator and senior reactor operator waiver or excusal requests (if any) (Office of Management and Budget (OMB) approval number 3150-0090) at least 60 days before the first examination date (if able). Mr. / Ms. (name), chief examiner, should be contacted to determine the method for submission of the waiver and/or excusal requests. Preliminary reactor operator and senior reactor operator license applications (OMB approval number 3150-0090) and, medical certifications (OMB approval number 3150-0024) should be submitted at least 30 days before the first examination date. If the preliminary applications are not received at least 30 days before the examination date, a postponement may be necessary. Final, signed applications certifying that all training has been completed and requesting any waivers or excusals, as applicable, should be submitted at least 14 days before the first examination date.

Although the minimum guidelines for receiving waiver or excusal requests is 30 days before the first examination date (preliminary) and 14 days before the first examination date (final), the requests should be submitted as early in the process as possible (see the 60-day guideline, above). Resolutions resulting from verbal inquiries by the licensee to the NRC are not binding. Submittals addressing waivers and/or excusals should be in writing (i.e., on NRC Form 398, or as directed when Mr. / Ms. (name) is contacted to determine the method for submission). The NRC's final decision on whether to grant a waiver or excusal will be documented on the final (not preliminary) NRC Form 398 submitted for the applicant and will not be provided until the final application is submitted to the NRC.

Paperwork Reduction Act Statement

This letter contains information collection requirements that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). These information collections were approved by the Office of Management and Budget, approval number 3150-0018.

The burden to the public for these voluntary [mandatory] information collections is estimated to average 2,250 hours per examination [400 hours per examination] including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collection. You may submit comments on any aspect of the information collection, including suggestions for reducing the burden, to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by electronic mail to INFOCOLLECTS.RESOURCE@NRC.GOV; and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0018), Office of Management and Budget, Washington, DC 20503.

Public Protection Notification

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a current valid OMB approval number.

This letter will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Thank you for your cooperation in this matter. (Name) has been advised of the policies and guidelines referenced in this letter. If you have any questions regarding the NRC's examination

procedures and guidelines, please contact (name of chief examiner) at (telephone number), or me at 123-456-7890.

Sincerely,

Name, Chief
Operations Branch
Division of Reactor Safety