

NRC Operator Licensing Public Meeting

December 2, 2022

Safety Message

NRC HEADQUARTERS COMPLEX

EMERGENCY EVACUATION ROUTES & ASSEMBLY LOCATIONS



Zone 2				Zone 1				
ADM OCIO	NMSS NIH	ACRS NSIR OCFO	ASLBP OCHCO RES	NRR	COMM OCA OE OCAA	OI OPA SBCR	OEDO OIG OIP	OGC SECY

Zone 3
NRC and NIH Staff & Contractors follow FDA protocol

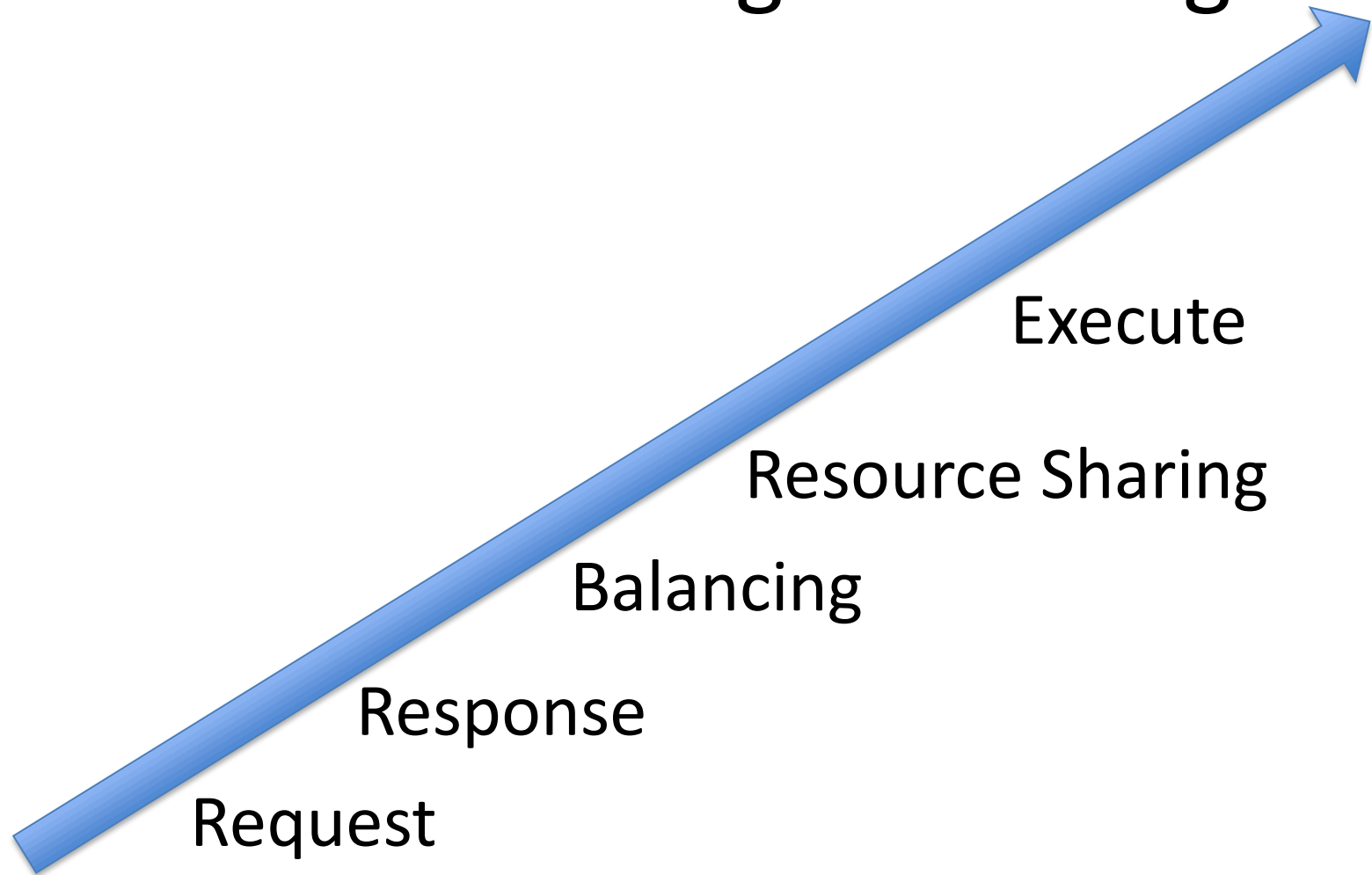
Opening Remarks

Operator Licensing Examination Scheduling

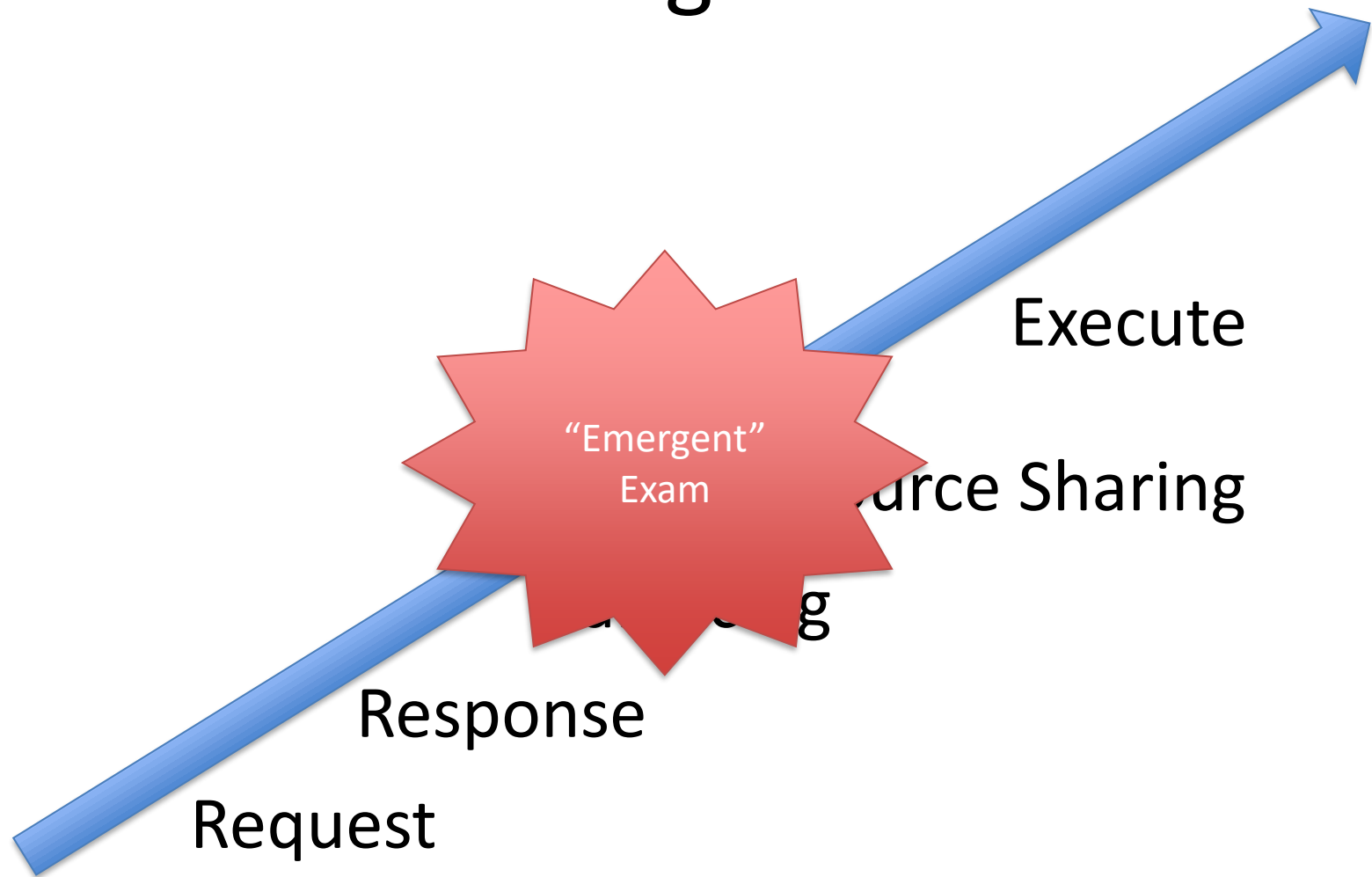
Brian Tindell

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Exam scheduling is working.



Examiner margins are small.





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REPORT A SAFETY CONCERN

SEARCH



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Power Reactors

Operating Reactors

Operator Licensing

Research & Test Reactors

New Reactors

Research Activities

Nuclear Reactor Quick Links



Spotlight

- Job Openings EXIT
- Environmental Justice
- Pilgrim Water Releases
- International Strategy 2021-2025
- Tribal Liaison Program EXIT
- Mission Analytics Portal External EXIT
- Transformation at the NRC - Updated
- OIG Hotline EXIT
- Rulemaking Activity

Latest News

- West Virginia Hospital to Take Corrective Actions Under Settlement Agreement with NRC
- NRC to Conduct Special Inspection at University of Texas at Austin Research Reactor
- NRC Publishes Annual Report to Congress on Nuclear Security Inspections
- NRC Announces Headquarters and Regional Leadership Appointments

Public Meetings

[Next Commission Webcast](#)

[December 6, 2022 at 10:00 a.m. (EST)]

NOVEMBER 2022

today

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SUN	MON	TUE	WED	THU	FRI	SAT
		01	02	03	04	05
06	07	08	09	10	11	12

https://www.nrc.gov/reactors/operator-licensing.html

Operator Licensing | NRC.gov

nrc.gov/reactors/operator-licensing.html

NRC: Document Col... IOLB Sharepoint Regional Coordinati... Books DRO - ASCC - Home Incident Response... IAEA - Assessment X-Energy Advanced Reactors...

Other bookmarks

Processing Facilities

Operating Reactors

New Reactors



Spotlight

Choose a Section

What We Regulate

- What We Regulate
- How We Regulate

The NRC licenses all individuals who either operate or supervise the operation of the controls of a commercially owned nuclear power reactor or a test/research (i.e., non-power) reactor in the United States. Although the regulations in this area generally apply to both power and research and test reactors, this site focuses primarily on the operator licensing activities at power reactor facilities. For more information on research and test reactors operator licensing, please refer to Operator Licensing for [Research and Test Reactors](#).

As of July 2019, there are approximately 3,900 active NRC-licensed power reactor operators in the United States.

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How We Regulate

NRC regulates the licensing of reactor operators and senior operators through a combination of regulatory requirements: initial licensing, including written examinations and operating tests; oversight of requalification training and examination programs, including enforcement. For more detail, see:

- Regulations, Guidance, and Communications
- Licensing Process
- [Examination Schedule and Results](#)
- Oversight Program
- Public Involvement
- Related Documents and Other Resources
- Generic Communications Related to Operator Licensing
- History of Rulemaking Activities for Operator Licensing
- Operator Licensing Program Feedback
- Contact Us About Operator Licensing

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Certificate

[How to Submit Operator Licensing Documents via EIE](#)

Past Generic Fundamentals Examinations and Banks

[BWR](#)

[PWR](#)

[Operator Licensing Examination and Biennial Regualification Inspection schedule](#)

https://www.nrc.gov/reactors/operator-licensing/examination.html

10:21 AM 11/15/2022



U.S.NRC

United States Nuclear Regulatory Commission

Protecting People and the Environment

 Navigation

Regulations, Guidance, and Communications

Licensing Process for Operators

Examination Schedule and Results

Oversight Program

Public Involvement in Operator Licensing

Related Documents and Other Resources

History of Rulemaking Activities for Operator Licensing

Program Feedback

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Examination Schedule and Results

On this page:

- [Operator Licensing Examination Performance Trends](#)
- [Operator Licensing Examination and Biennial Requalification Inspection schedule](#)

The operator licensing examination schedule and the results of the initial operator licensing examination are provided below.

The operator licensing examinations are administered in each of the four (4) NRC regions, at various locations. The location and frequency of the operator licensing examination are determined by the facility licensee's needs.

Title 10, Part 55, of the Code of Federal Regulations ([10 CFR Part 55](#)) requires that applicants for reactor operator (RO) licenses must pass both a written examination and an operating test (both initially and for requalification). For SRO applicants, the SRO applicant must score an 80% or better on the overall written examination (100 questions) and a 70% or better on the SRO portion of the written examination (25 questions) and pass the operating test. The RO applicants must score an 80% or better on the written examination (75 questions) and pass the operating test.

Operator Licensing Examination Performance Trends

The following 15 graphs illustrate the results of the initial operator licensing examinations (applicants taking retake exams are excluded). The graphs provide historical data of the performance of reactor operator (RO) and senior reactor operator (SRO) license applicants in both the written examination and the operating test. The graphs are presented based on the fiscal year (FY) in which the examination was administered for each of the last 10 FYs.

As can be seen from the first 10 graphs listed, in general, the performance of the RO and SRO license applicants has slightly increased over the past 10 years. This is caused by a number of factors which may include, but are not limited to, changes to standards and the facility licensees' initiative to have more selective and stringent training programs. Yet, the performance of the RO and SRO applicants over the past 10 years still displays several relatively consistent characteristics. For RO license applicants, the overall pass-rate is approximately 84% or greater, with the averages trending from around 94% to 98%. For SRO license applicants, the overall pass-rate is approximately 85% or greater, with the averages trending from around 93% to 96%. The overall written examination grades are

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Operator Licensing Examination and Biennial Requalification Inspection schedule

See the biennial requalification inspection, operator licensing examination, and on-site validation [schedule](#) [pdf](#) document.

All the schedules are in portable document format (PDF). See our [Plugins, Viewers, and Other Tools](#) page for

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https://www.nrc.gov/docs/ML2225/ML22258A275.pdf



Questions & Comments

NUREG-1021 Revision 12

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We are monitoring the implementation of NUREG-1021 Rev 12

- 21 initial licensing exams have been given under Revision 12
- Effectiveness Review underway to track major changes:
 - Performance on generic fundamental questions
 - Quality of generic fundamental questions
 - Licensed operator performance in the plant
 - Use of critical task methodology
 - No. of critical performance and significant performance deficiencies
 - No. of failures and requests for informal NRC staff review
 - Implementation of ACAD-10-001 Rev 2
 - General feedback

[Effectiveness Review Plan ML22138A409](#)

We issued 5 new OLPFs to help clarify the revised Critical Task Methodology (ES-3.3)

3.3.1 Regarding the following criterion for identifying critical tasks: *Tasks that directly lead to the restoration of one or more safety functions*. Is this referring to vendor-specific safety functions or the safety functions listed in the applicable K/A catalog?

3.3.2 Can an automatic reactor trip/engineered safeguard feature actuation/setpoint be used as the boundary condition for a CT? If yes, and if this type of boundary condition is exceeded, then would the associated PD be a CPD or an SPD?

3.3.3 Can manually tripping the reactor be used as a critical task?

3.3.4 Does the requirement for a CT to have a performance feedback element apply to the boundary condition element of the CT?

3.3.5 When is it appropriate to use an alternative boundary condition?

OLPFs are on the NRC public website

- NRC's OL public website:
<https://www.nrc.gov/reactors/operator-licensing.html>



How We Regulate

NRC regulates the licensing of reactor operators and senior operator combination of regulatory requirements: initial licensing, including initial operating tests; oversight of requalification training and examination enforcement. For more detail, see:

- [Regulations, Guidance, and Communications](#)
- [Licensing Process](#)
- [Examination Schedule and Results](#)
- [Oversight Program](#)
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- [History of Rulemaking Activities for Operator Licensing](#)
- [Operator Licensing Program Feedback](#)
- [Contact Us About Operator Licensing](#)



Questions & Comments

MAP-X for NRC Forms 396 and 398

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Questions & Comments

Ongoing Rulemaking

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Ongoing Rulemaking – Part 53

- The preliminary Part 53 rule has been fully drafted
- Draft guidance documents that support the preliminary rule's implementation in the areas of staffing, operator licensing, and human factors engineering have been prepared
- It's expected that this preliminary rule will be provided to the Commission early next year with issuance as a proposed rule later in 2023
- A public comment period will be provided thereafter

Ongoing Rulemaking – Part 53

- The preliminary rule includes many new features, such as:
 - the ability to customize operator staffing based on plant-specific needs
 - a modernized and flexible approach to the traditional STA role
 - provisions for automatic load following
 - the ability for facilities to design their own operator licensing exam programs and administer their own exams
 - enhanced flexibilities to use alternatives to full-scope simulators
 - an entirely new type of licensed operator that would be licensed under a general license approach

Operator Licensing Exam Guidance

- Purpose
 - Assists staff reviews and approvals of the operator licensing examination program for applications under 10 CFR Part 53
 - Provides guidance for review of tailored initial and requalification examination programs
 - Specifically licensed operators (SROs and ROs)
 - Generally licensed operators (GLROs)
 - Assists staff review of proficiency programs for SROs and ROs
 - Assists staff review of exemptions from 10 CFR Part 55 for non-large light water, commercial power reactor examination programs

Operator Licensing Exam Guidance

- Goals of staff review
 - Ensure facility applicants/licensees identify knowledge, skills, and abilities (KSAs) necessary for safe operation and to fulfill operator licensing functions as the content for examinations
 - Establish reliable guidelines for staff review of exam programs developed based on current best practices from expertise and research on the measurement and testing of KSAs
- Topics: KSA list for examination content, test development, validity, scoring, reliability, simulation facilities, administration of exam, how to change the exam program, considerations for requalification programs, and other topics associated with the initial licensing of operators

Facility Training Program Guidance

- Facility Training Program Guidance has been drafted
- Draft guidance document supports the NRC staff's review of training programs.
- This guidance covers:
 - Scope of facility training programs
 - The 5 phases of the systems approach to training
- Guidance is currently in review and expected to be available for public comment early in 2023.

A rulemaking is in progress that would improve operator licensing for plants under construction

- *Alignment of Licensing Processes and Lessons Learned from New Reactor Licensing* - Docket ID [NRC-2009-0196](#)
- Proposed rule as it relates to 10 CFR Part 55:
 - Clarifies how the plant-referenced simulator applies to plant that is under construction
 - Allows the use of suitable alternatives for in-plant JPMs when plant is under construction
 - Allows licensee to request waiver of examination and test requirements when applicant applies for a license for unit(s) of the same design
 - Requires licensee to maintain an applicant's KSAs when there is time gap between passing initial licensing examination and participation as a licensed operator in the licensed operator requalification program
- Rulemaking currently with Commission for approval to publish as a proposed rule later this year and final rule in June 2024

Questions & Comments

NUREG-1021 Revision 13

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NUREG-1021 will likely be revised in the next 5 years

- Draft revision 13 to NUREG-1021 will be issued with the proposed Part 50/52 alignment rulemaking; shows only the changes to support the rulemaking
- Other reasons we would revise NUREG-1021:
 - If changes are necessary, following the NUREG-1021 revision 12 effectiveness review
 - To incorporate examination standards for NuScale SMR written examinations and operating tests (possible as a supplement to NUREG-1021)

Questions & Comments

Industry Topics & Open Discussion

Public Comments

Closing Comments

**For feedback about the public
meeting, please contact:**

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