Agenda

- Opening remarks
- NUREG-1021 draft Revision 12, changes *
- Discussion
- Public comments
- Summary
- Closing Remarks

*Question opportunity at the end of each examination standard (ES) series (i.e., ES-1, ES-2, etc.)

Re-organization

Revision 11

- 22 examination standards

- 6 appendices

- 605 Pdf pages

Draft Revision 12

- 26 examination standards

- 2 appendices

- 450 Pdf pages

- Crosswalk for Revision 12 (ADAMS ML20325A254) shows how the Revision 11 information was re-organized in Revision 12

ES 1 General

ES 1.1 Using the Examination Standards

- Instructions, procedures, restrictions, limits (shall)

- Guidelines and guidance (should)

- Use the glossary, know the terms

- Use the latest revision of the applicable K/A catalog available at the time the facility licensee requests the written examination outline (up to 18 months before the examination date based on typical initial operator licensing class length).

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ES 1.2 Guidelines for Taking NRC Examinations

- This used to be Appendix E
- When extending the timeline of the written exam, deleted the requirement to first notify NRC regional office to ensure that a point of contact remains available to respond to questions
- New: use ink to sign cover sheet, use of panel doors during JPMs, do not solicit/give technical information
- Deleted information about video recording during scenarios
- Changed the term *remedial training* to *additional training*
- The term *performance deficiency* replaces the term *error* in guidelines for operating test

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ES 1.3 Examination Security

- This new ES is applicable to facility licensee and NRC developed examinations

- Clarified information regarding audit examinations

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ES 2 Initial Examination, Pre-Examination Activities

ES 2.1 Preparing for Operator Licensing Initial Examinations

- Clarified how the NRC defines 30 days between operating test and written examination administration

- Added a step for facility licensee to submit proposed outlines for operating test

- Added a step for facility licensee to give the NRC chief examiner a list of significant differences between simulator facility and the reference plant

- Added a limit (18 months) for when a facility licensee can request a written examination outline from the NRC regional office

- Clarified that for re-take examinations, the the 210-day target for the NRC regional office to submit a examination confirmation letter to the facility licensee does not apply

- For the examination preparation call, added an additional item for NRC chief examiner to discuss with facility licensee: if any individual applying for the NRC exam has previously failed an NRC operating test (at any facility).

- Added a step for assigned NRC examiners to review the facility licensee's security procedure and brief the facility contact on the examination security items in ES 1.3

- Changed the target for discussing examination review results from 5 weeks to 7 weeks

ES 2.1 Preparing for Operator Licensing Initial Examinations (cont.)

- Added a step for the facility licensees to provide a draft operating test administration schedule

- Added a new subsection about preparatory site visits (validation week)

- Added information about securely sharing electronic documents (e.g., BOX)

- Clarification: The option to submit some sample test items (5 to 10 written questions, 1 scenario, and 1 to 2 JPMs) for preliminary NRC review and comment is referred to as the pre-submittal sample

- Clarified that for the pre-submittal sample, review comments do not need to be formally documented

ES 2.2 Applications, Medical Requirements, and Waiver and Excusals

- Endorsement of ACAD 10-001, Revision 1 as one method for meeting eligibility requirements and removed redundant eligibility information

- Discontinued the use of NRC waivers for experience requirements for licensees that follow NANT guidelines for eligibility. Substitutions allowed by NANT guidelines do not require NRC approval or NRC waivers. Deferral requests allowed.

- Removed the limit on how many months of experience that the NRC regional office can approval for deferral requests

- Added clarifications for cold plants under construction from *Recommendations, Operator Licensing Process for Cold Plants* (ML18236A870)

- Updated instructions for use of electronic signatures for NRC Forms 398

- Deleted information that is redundant to instructions on NRC Forms 398 and 396

ES 2.2 Applications, Medical Requirements, and Waiver and Excusals (cont.)

- The term *multi-unit licensing* replaces the term *dual-licensing*

- Clarified how to add another unit to an operator license for new construction cases

- Changed 6-month expiration of medical examination for applicants to 2 years

- Added that for re-applications and examination excusal requests, the NRC staff will also evaluate how the applicant was trained on deficiencies in the pass portions of the examination as well as those in the failed portions

- Updated all sample correspondence letters with current electronic filing instructions

ES 2.3 Reviewing and Approving Operator Licensing Initial Examinations

- Provided additional guidance on balance of coverage and how a NRC chief examiner can check the balance of coverage (from FAQ 401.55)

- Clarified instructions for NRC review of operating test (accounting and recordkeeping)

- Clarified information for the pre-submittal sample

- Added criteria for how to determine if a submitted exams requires "substantive changes"

- Clarified instructions for flaws of previously approved NRC written examination questions

- (Y)es/(N)o instead of reviewer initials on all quality checklists. Reviewers still sign checklists

- Form 2.3-1, *Examination Outline Quality Checklist:* added manual control evolutions and fixed a Rev 11 error: All scenarios must be new or significantly modified.

- Form 2.3-2 *Operating Test Quality Checklist*: added "task standard" check for JPMs, and a line item for designating alternate path JPMS. Combined the former Simulator Scenario Quality Checklist into this form to create one Operating Test Quality checklist

- Form 2.3-5, *Written Examination Quality Checklist*: added check for technical reference and direct look-up questions, clarified that retake examinations are considered. Clarified what constitutes an unsatisfactory question (for examination quality determination in ES 5.1).

- Minor enhancements to most of the forms in this section

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ES 3 Initial Examination, Operating Tests

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ES 3.1 Overview of the Operating Test for Operator Licensing Initial Examinations

- Clarified the scope of the operating test for applicants getting a multi-unit license at multi-unit facility

ES 3.2 Specific Instructions for JPMs

- Clarified that Administrative Topics JPMs should not test system operation.

- Deleted: *For SRO applicants, an attempt should be made to cover fuel handling in the fuel handling areas of the plant whenever possible.*

- Updated expected time for Administrative Topics JPMs to align with what is done in practice

- Clarified the instructions for developing JPM task standards and provided examples

- Added a step to designate the critical steps on the JPM grading sheet

- Added a step to include a summary of the JPM on the outline form

- For the control room/in-plant systems JPM outline, clarified how to select a task for each JPM: select a task that *supports, either directly or indirectly and in a meaningful way, the successful fulfillment of the associated safety function*.

- Made minor changes to all JPM forms

ES 3.3 Testing Guidelines for Dynamic Simulator Scenarios

- Deleted the example scenario outlines
- Clarified that a low power initial condition is not required for every simulator scenario set (but use low power initial conditions periodically)
- Clarified terms *events* and *malfunctions*: events may consist of one or more simulator malfunctions
- An I/C failure occurring before the major event/EOP entry can only be counted again, as a separate event, after the major event/EOP entry if the operator actions differ distinctly from the actions before the major event/EOP entry - and gave examples
- Do not count I/C failures that occur after entry into EOPs toward the target number of abnormal events. Do count them as events after EOP entry
- For the target number of EOPs entered: clarified that the EOP counts if entry into it requires significant operator action to maintain plant safety and, where a success path exists, prevent further degradation to plant safety
- Added examples of EOP contingency procedures for Westinghouse AP1000
- Revised the list of General Electric BWR EOP contingency procedures
- Major changes to Critical Task methodology
- Add an area to include Symptoms/Cues for events on Form 3.3-2 *Required Operator Actions*

ES 3.4 Developing Scenarios

- Clarified: If any major event is repeated from either of the previous two NRC operator licensing initial examination operating tests, the exam author should change the major event, the initial conditions, or subsequent malfunctions (or a combination of these) to alter the course of action (within the emergency procedures) for the given scenario(s)

- Can only repeat events that appear on the applicant audit examination if the operator actions in response to the event are significantly different from those on the audit examination.

- Added a step to check for overlap between simulator scenarios and written examinations (in addition to checking overlap with JPMs)

- SRO-Instant applicants can meet RO control board scenario events in either the ATC or the BOP position. There are specific events that SRO-Instants have to get while in either the ATC/BOP position.

ES 3.4 Developing Scenarios

- Deleted Form ES-301-6, *Competencies Checklist*. The requirement for manual control of automatic function transferred to the *Transient and Event Checklist*, which has been renamed, Form 3.4-1, *Events and Evolutions Checklist*.

- Clarified: target for EOP-contingency procedures is "1 per scenario set"

- Clarified for verifiable actions, that a calculation is a verifiable action only if it is subsequently used to diagnosis an event or for decision-making (deleted reference to a "meaningful" calculation)

- The term *I/C failure* replaces *I/C malfunction*

- Each Technical Specification (TS) evaluation must be tied to a separate event and involve entry into one or more TS action statements.

- The offsite dose calculation manual cannot be used to meet the minimum number of TS evaluations for SRO applicants

- TS evaluations can be standalone events for the SRO applicant; not required to also count as an I/C failure requiring a verifiable action by the control board operators

ES 3.5 Administering Operating Tests

- Discontinued option for audio/video recording of operating tests

- Deleted steps to mark chart recorders with date/time/initials for data collection. Added allowance for digital/electronic recording

- Deleted ES-301 Attachment 1, "Open Reference Guidelines"

- The term *monitor* replaces *proctor* for facility licensee staff that assist with operating test administration

- Clarified guidance for simultaneous administration of different JPMs

- Added guidance for when to use the spare scenario

ES 3.5 Administering Operating Tests

- New section on *Instructions for Use of Surrogate Operators During Administration,* with clarifications including: *surrogate operators shall not take a proactive role in assisting or coaching applicant*

- New section on *Instructions for the Use of Follow-Up Questions,* with clarifications for examiners for how to ask performance-based follow-up questions

- The term *performance deficiency* replaces *error*

- Revised step: Immediately after scenario, examiners identify any significant performance deficiencies or post-scenario Critical Tasks

ES 3.6 Grading and Documenting Operating Tests

- New terms and criteria for identifying and grading: Performance Deficiency (PD), Significant PD, Critical PD

- New instructions for identifying and grading PDs involving Technical Specifications

- Forms 3.6-5 and 3.6-6, *RO/SRO Competency Grading Worksheets* now contain the competency details from the former Appendix D with some clarifications for consistent use of rating factors

ES 3.7 Alternatives for In Plant JPMs at Plants Under Construction

- New ES with guidance for exemption requests for in-plant JPMs at plants under construction.

ES 4 Initial Examination, Written Examinations

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ES 4.1 Developing Written Examination Outlines

- Updated forms 4.1-BWR, 4.1-PWR and 4.1-AP1000 for use with the current K/A catalogs and GFE re-integration

- Clarified that when sampling Tier 1 and 2 K/As for SRO-only questions on fuel handling equipment, sampling is <u>not</u> limited to A2 and G

- Deleted the list of pre-screened K/As for Tiers 1 and 2 from K/A catalog Section 2 Generic K/As.

- New Tier 4 category for Generic Fundamentals questions

- Form ES-401-3 *Generic Knowledge and Abilities Outline* (Tier 3) has been renamed Form 4.1-COMMON, *Common Examination Outline* and is for all vendor type Tier 3 and Tier 4 K/As

ES 4.2 Developing Written Examinations (1 of 4)

- Deleted use of the term "site-specific" written examination

- In Section C, *General Guidelines Applicable to All Written Examination Questions*, deleted use of the term "face validity."

- For Tier 1 questions, clarified how to test an applicant's knowledge of how to safely operate the plant during emergency and abnormal conditions.

- For Tier 3 questions, clarified that question focus on plantwide generic K/As and NOT system-specific knowledge or knowledge of emergency/abnormal plant evolutions.

- Added common examples of reasons to deviate from the approved outline

- No longer need to get NRC chief examiner permission to reject/replace a K/A (must document why K/A rejected and why replacement K/A acceptable) on Form 4.1-1 *Record of Rejected K/As*

- Clarified that bank questions include NRC questions used at other facility licensee sites
- Clarified how to significantly modify a bank question
- Clarified for multiple part questions, both parts of the question must test a topic/concept related to the K/A
- On Form 4.2-1 *Written Examination Question Worksheet*, the Explanation block is no longer optional.
- New Form 4.2-2, *Question Development Checklist*

ES 4.2 Developing Written Examinations (3 of 4)

- Integrated Revision 11 Attachment, *Clarification Guidance for SRO-only Questions*, into the main body of the ES as Section E, *Instructions for Developing and Reviewing SRO-level Questions*

- Moved all examples of SRO-only written examination questions to Appendix B

- Clarifications for SRO-level questions on Technical Specifications: test knowledge beyond "above the line" TS information and general systems knowledge. Added this to Figure 4.2-2 and provided two examples.

ES 4.2 Developing Written Examinations (4 of 4)

- On Figure 4.2-3 *Screening for SRO-Only Questions Linked to Assessment and Selection of Procedures*, deleted term *direct* in front of *entry into major EOPs*

- Updated the list of EOPs that cannot be used for SRO-only questions (questions that test fundamental knowledge of plant parameters that require entry into major EOPs)

- Added: *Another area of SRO-level knowledge (with respect to selecting a procedure) is knowledge of decision points within the facility's emergency plan. These include Emergency Action Level declarations and Protective Action Recommendations since these would subsequently lead to the implementation of various sub-procedures within the emergency plan.*

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ES 4.3 Administering Written Examinations

- Deleted language about what a proctor cannot do and changed focus to what the proctor is supposed to do during the examination

- Deleted requirement to seat RO and SRO applicants at alternate tables

- Deleted reference to a "facility pre-review" for post-examination review instructions

ES 4.4 Grading and Documenting Written Examinations

- Discontinued use of Rev 11 Form ES-403-1, *Written Examination Grading Quality Checklist*. These steps integrated into main body of ES-4.4

- Clarified for the facility licensee to make two copies of the original answer sheet before grading. Keep one, send one

- Clarifications made to list of errors that the NRC staff will not accept when considering examination changes after the exam is administered

- Clarification added for what "conflicting information" means when a question has two correct answers

ES 5 Initial Examination, Post-Examination Activities and Other Licensing Actions

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ES 5.1 Issuing Operator Licenses and Post-Examination Activities

- Minor updates made to all sample letters
- The *Notification Letter* has been renamed *Pass Letter*
- Added a statement that facility licensee is expected to use their Systems Approach to Training process to analyze and determine the need for additional training for any applicant who passed the NRC examination but had knowledge and/or performance deficiencies
- The *License Letter* has been renamed *RO License* or *SRO License*
- Deleted "RO score" from written examination documentation
- Added a new section with a revised method for calculating the quality of the submitted examination

ES 5.2 Application Denials and Requests for Informal NRC Staff Review

- All instructions for performing the informal NRC Staff review are in OLMC-500, *Processing Requests for Administrative Reviews and Demands for Hearings (ADAMS Accession No. ML20230A201)*

- This examination standard still tells applicants how to request an informal NRC Staff Review

ES 5.3 Maintaining, Changing and Renewing Operator Licenses

- Changed the term *similar unit* to *comparable unit*
- Removed address from the list of items requiring a license amendment
- Clarified instructions for maintaining active operator status
- The phrase *walkthrough on-station* replaces the term *simulate* for how to demonstrate LSRO watch-standing proficiency for license reactivation purposes
- Added CPAP machine to the sample list of medical restrictions/conditions

ES 6 NRC Conducted Requalification Examinations

ES 6.X for NRC Conducted Requalification Examinations

- ES-6.1: deleted statement that the NRC encourages use of video and audio recording.

- ES-6.2: Split up former ES-602 attachments and tables into the main body and separate forms.

- ES-6.3: none

- ES-6.4: added references to CPDs and SPDs

ES 7 Fuel Handling Examinations

ES 7.1 and ES 7.2 for LSRO Initial Examinations

- ES 7.1: Took out note about taking the GFE
- ES 7.2: None

ES 8 Glossary

The following words were <u>added</u> with definitions to the Revision 12 Glossary:

- Applicable K/A catalog
- Bank Question
- Cold plant operator licensing
- Comparable unit
- Critical Task (CT)
- Critical Performance Deficiency (CPD)
- Different units
- Performance Deficiency (PD)
- Significant control manipulations
- Significant Performance Deficiency (SPD)
- Verifiable action

ES 8 Glossary

The following words were <u>removed</u> from the Revision 12 Glossary:

- Achievement test

- Aptitude test

- Designated nuclear control operator

- Responsible nuclear power plant experience

- Equivalent form

- Related experience

- Staff engineer

Appendices

- Appendix A: Overview of Generic Examination Topics

- Appendix B: Examples of Written Examination Topics

Discussion

Public Comments

Summary and Closing