

**Appendix C-10  
Operator Licensing (OL) Examiner  
Technical Proficiency Training  
and Qualification Journal**

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## Introduction

This Appendix establishes the program for initial qualification of Operator Licensing (OL) Examiners and Chief Examiners through individual study activities (ISAs), formal classroom instruction, and on-the-job training (OJT). It also establishes requirements for maintaining examiner proficiency through periodic performance observations, continuing, and refresher training. Although the OL Examiners' job is in many ways unique, it does share a number of similarities with and actually overlaps the Reactor Operations Inspector discipline when it comes to the implementation of IP 71111, Attachment 11, "Licensed Operator Requalification Program," as part of the NRC's Reactor Oversight Process (ROP). Consequently, OL Examiners will generally be expected to complete the Reactor Operations Inspector Technical Proficiency Training and Qualification Journal (Appendix C1) sometime after initial certification as an OL Examiner (as determined by the regional OL BC).

## General Requirements

Do not begin the activities in this qualification journal until you have completed the following Basic-Level Individual Study Activities (ISAs): 1 through 6, 14 through 16, and 19. You should complete the General Proficiency (Appendix B) on-the-job training (OJT) and ISA in parallel with the Technical Proficiency requirements outlined in this journal. The Appendix B training courses are not required for OL Examiner certification and may be deferred until subsequent qualification as a Reactor Operations Inspector in accordance with Appendix C1.

Full-time OL Examiners must complete all of the required training courses, ISAs, and OJT activities within 24 months after assignment to the Regional (or Program Office) OL Branch. Part-time (i.e., reserve) OL Examiners who will be used only to assist with the administration of operating tests may be certified on a limited basis after completing those courses and activities identified with an (L). Full-time examiners may also be certified on a **temporary** limited basis pending completion of the remaining courses and activities.

Although a qualification board is **not** required, every OL Examiner must satisfactorily administer a complete operating test pursuant to OL Examiner OJT Activity (3) prior to limited certification. This certification test must be audited by a certified Chief Examiner (preferably the regional OL BC) who will assess and document the examiner candidate's performance on all the individual attributes identified in Section 02.02 of IMC 0102, "Oversight and Objectivity of Inspectors and Examiners at Reactor Facilities." The auditor will provide a written recommendation whether or not to certify the examiner candidate, including the need for any remedial training, to the Chief of the Regional OL Branch with a copy to the individual's BC, as appropriate.

The Chief of the Regional (or Program Office) OL Branch and the Director of the Regional Division of Reactor Safety (or NRR Division of Inspection Program Management) will document their concurrence in the auditor's recommendation by signing the individual's OL Examiner Certification Card. Consistent with Section 04 of IMC 1245, the Regional Administrator (or Director NRR) shall certify that OL Examiners are qualified to independently administer operating tests (i.e., limited certification). Completion of the remaining items for full examiner qualification shall be certified by the Division Director.

OL Examiner candidates who completed Entry-Level OJT Activity (4), “Inspection Activities,” by participating in a licensed operator requalification program inspection (IP 71111, Attachment 11), may, pursuant to Section 03.02 of IMC 1245, be assigned limited scope requalification program inspection activities, under the supervision of a fully qualified examiner/inspector, before they complete their examiner training and qualification. Only fully certified examiners who have also completed their Reactor Operations Inspector qualification pursuant to Appendix C1 can be assigned to lead requalification inspections.

An examiner’s certification will automatically extend to multiple reactor technologies upon satisfactorily completing the full course series or the cross-training course for the applicable reactor technology.

Although regional OL BCs are encouraged to complete the OL Examiner certification program, it is not required.

Chief Examiner certifications can be completed at the discretion of the regional OL BC. Part-time or reserve examiners will generally not be certified or assigned duties as a Chief Examiner.

The Chief Examiner certification is based on a written recommendation by the Chief of the Regional OL Branch; a qualification board is **not** required. The Regional OL BC (or the designated Chief Examiner during OJT Activities (8) and (9)) will assess and document the Chief Examiner candidate’s performance on all the individual attributes identified in Section 02.02 of IMC 0102, “Oversight and Objectivity of Inspectors and Examiners at Reactor Facilities.” The regional OL BC will provide a written recommendation whether or not to certify the Chief Examiner candidate, including the need for any remedial training, to the Director of the Regional Division of Reactor Safety (DRS) for concurrence. Consistent with Section 04.03 of IMC 1245, the Regional Administrator shall certify that Chief Examiners are fully qualified in accordance with this Appendix.

The Director, DRS, can approve alternate methods for meeting selected training, study, and OJT requirements in this Appendix. Justifications for accepting alternate methods (e.g., previously holding an RO or SRO license might substitute for the technology series on the same vendor, but a refresher course might be appropriate depending on recency) must be documented on Form 1 and are subject to review by the OL program office.

## **Required OL Examiner Training Courses**

*Before signing up for any course, be sure that you have checked and have met any prerequisites.*

- Power Plant Engineering Directed Self-Study Course (E-110S)
- Reactor Technology Series (Basic, Advanced, and Simulator)
- Examination Techniques Course (G-107)

The Reactor Technology Series (Basic, Advanced, and Simulator) should normally be completed before attending the Examination Techniques Course. Examiner candidates should also complete Study Activities (5) and (7) before attending the written portion of the course, and they should additionally complete Study Activity (8) and one initial examination observation trip (OJT Activity (1)) before attending the operating test techniques training.

Document completion of the reactor technology courses on the Signature Card as well as the Signature Card in Appendix C1, "Reactor Operations Inspector Technical Proficiency Training and Qualification Journal."

The Examination Techniques Course (G-107), which includes instruction on both operating test and written examination techniques, is scheduled and conducted as needed by the NRR Operator Licensing Program Office. The operating test techniques portion of the course, which is conducted at the NRC's Technical Training Center, is required for all OL Examiners (including those seeking limited certification). The written techniques portion of the course, which is generally conducted separately at NRC Headquarters in Rockville, MD, is required for all full-time examiners.

OL Examiner candidates must complete all the personal and interpersonal skills courses prior to certification as an OL Examiner. However, completion of the General Proficiency (Appendix B) training courses (Conducting Inspections, Field Techniques for Inspectors, and Root Cause Analysis) may be deferred until the examiner prepares to qualify as a Reactor Operations Inspector pursuant to Appendix C1.

### **Required OL Examiner Refresher Training**

All qualified OL Examiners are required to complete refresher training as follows:

- To maintain their technical proficiency, OL Examiners must complete the technical refresher and simulator/EOP refresher courses every three years. The due date will be determined based on the individual's Full Inspector Qualification or OL Examiner qualification date, whichever came first. Examiners who are certified on more than one reactor technology should alternate their attendance among the vendors for which they are certified during successive refresher training periods. However, the regional OL BC should consider and assign additional technical refresher training based on the examiner's job performance.
- To maintain their examination skills, OL Examiners shall complete some form of examination techniques refresher training every three years. The options include: (1) attending the nominal 2-day refresher training class presented by the NRR OL Program Office in conjunction with the national operator licensing examiners' training conference (which are generally scheduled every 18 months); (2) attending an examination techniques refresher course scheduled by special arrangement with the NRR OL Program Office; or (3) making arrangements with the NRR OL Program Office to attend either the written examination or the operating test techniques portion of the Initial Examination Techniques (G-107) Course.
- To keep up-to-date on changes in the OL program, examiners should attend every national operator licensing examiners' training conference and other special continuing training program presented by the NRR OL Program Office.

The Regional OL BCs shall oversee their examiners' field activities in accordance with Inspection Manual Chapter 0102, "Oversight and Objectivity of Inspectors and Examiners at Reactor Facilities."

Every OL Examiner should administer at least one complete operating test every 12 (and not to exceed 15) months in order to maintain proficiency. Any examiner who fails to maintain proficiency must be audited (as described above) by a certified Chief Examiner (preferably the regional OL BC) during the satisfactory administration of a complete operating test on any reactor technology in which the examiner has maintained technical proficiency (by attending the required refresher training discussed above). Any examiner who has been inactive for more than two years shall also complete some form of examination techniques refresher training, as discussed above, in order to reactivate their OL Examiner certification.

Examiners assigned to the OL program office and certified regional OL BCs are generally exempt from the proficiency and observation requirements by virtue of their day-to-day involvement in program development and oversight, including the administration of operating test audits and/or teaching the operating test portion of the Examination Techniques (G-107) Course. The Chief of the NRR Operator Licensing Section will determine the need for proficiency testing and observations on a case-by-case basis.

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## **OL Examiner Individual Study Activities**

The Individual Study Activities outline the operator licensing program reference materials that will enable examiner candidates to develop the specialized knowledge required to become certified OL Examiners and Chief Examiners. Reference materials that can be accessed via the OL web site are identified with a (W).

The following Individual Study Activities required for certification as an OL Examiner are similar to guides contained in Appendix C1, "Reactor Operations Inspector Technical Proficiency Training and Qualification Journal:"

- ISA-OLE-9, "Technical Specifications," parallels ISA-OPS-2
- ISA-OLE-10, "Operability," parallels ISA-OPS-3
- ISA-OLE-11, "Shutdown Operations," parallels OJT-OPS-9

You may document completion of equivalent activities on both Signature Cards. Treating ISA-OLE-11 as an OJT activity would eliminate the need to later repeat the activity to certify as a Reactor Operations Inspector.

The following general guidance applies as you complete the OL Examiner Individual Study Activities:

- The activities should generally be completed in the order in which they are presented, unless otherwise directed by the regional OL BC.
- All parts of each activity must be completed.
- The regional OL BC will act as a resource as you complete each activity. Discuss any questions you may have about how a task must be done or how the guidance is applied. The OL BC may also designate a qualified Chief Examiner to work with you as you complete the various activities.
- You are responsible for keeping track of what tasks you have completed. Be sure that you have completed all aspects of an activity before you meet with the regional OL BC for evaluation.

## OL Examiner Individual Study Activity

**TOPIC:** (ISA-OLE-1) Navigating the NRC's Operator Licensing Web Pages

**PURPOSE:** The purpose of this activity is to familiarize you with the navigation and content of the NRC's operator licensing web pages. OL Examiners must routinely access and review a variety of documents to support their work activities. This individual study activity will familiarize you with the web locations of those documents.

**COMPETENCY  
AREA:**

INFORMATION TECHNOLOGY

**LEVEL OF  
EFFORT:**

2 hours

**REFERENCES:**

1. <http://www.nrc.gov/reactors/operator-licensing.html>
2. <http://www.nrc.gov/reactors/operator-licensing/generic-fundamentals-examinations.html>

**EVALUATION  
CRITERIA:**

There are no specific evaluation criteria for this activity. Use the regional OL BC or another OL Examiner as a resource as you complete this activity.

**TASKS:**

1. Open your web browser and go to the Operator Licensing Home Page (the first URL referenced above). Add a bookmark for future reference.
2. Familiarize yourself with the general layout. Navigate through each of the eight pages accessible from the home page: Regulations, Guidance and Communications, Licensing Process, Oversight Program, Public Involvement, Related Documents, Generic Fundamentals Exam, the Frequently Asked Questions (FAQs) page, and Contact Us. Try out some of the embedded hyperlinks to the various documents related to the OL program.
3. Make a mental note of the document locations as you will need to refer to many of them while completing the remainder of the OL Examiner training and qualification program and after you are certified as an OL Examiner.
4. Be sure to check out the FAQ page and familiarize yourself with its layout.

5. Go to the Generic Fundamentals Examination (GFE) home page and familiarize yourself with its contents. You will spend more time here when you work on Study Activity No. 5.

**DOCUMENTATION:** OL Examiner Signature and Certification Card Item ISA-OLE-1

## OL Examiner Individual Study Activity

**TOPIC:** (ISA-OLE-2) History and Organization of the Operator Licensing Program

**PURPOSE:** The purpose of this activity is to familiarize you with the evolution of the OL program and the statutory / regulatory framework under which it functions.

**COMPETENCY AREA:** REGULATORY FRAMEWORK

**LEVEL OF EFFORT:** 16 hours

**REFERENCES:**

1. Section 107 of the Atomic Energy Act of 1954 (W)
2. Section 306 of the Nuclear Waste Policy Act of 1982 (W)
3. 10 CFR Part 55 (W)
4. 1987 final rule; NUREG-1262
5. 10 CFR 50.54(i) - (m) (W)
6. OL Program Chronology and History 1979 - 1994 (W)
7. OL Program Fact Sheet (W)
8. NRC Organization Charts and Delegation of Authority (W)
9. OL Manual Chapters (ML022350290)

**EVALUATION CRITERIA:** Upon completing this activity, you will be asked to demonstrate your understanding of the OL program history and regulatory framework as follows:

1. Discuss the statutory requirements for the OL program as stated in the Atomic Energy Act of 1954.
2. Discuss the statutory and regulatory changes put into effect by the Nuclear Waste Policy Act of 1982, including the 1987 final amendment to 10 CFR 55.
3. Discuss the layout and major Subparts of 10 CFR Part 55.
4. Outline the major offices having OL responsibilities and briefly describe the functioning of the following: the NRR Operator Licensing Program Office; the Director, Division of Inspection Program Management; the Atomic Safety and Licensing Board; the NRC Regional Offices.
5. Describe the Region's OL organization and its relationship to and interaction with the NRR OL Program Office.

**TASKS:**

1. On the OL Website, locate and review the statutory requirements for the OL program (i.e., references 1 and 2).

2. Locate and read a copy of 10 CFR Part 55 (it's on the web, but a hard copy might be useful). Become familiar with its overall layout and format.
3. Locate and review the FRN for the 1987 amendment to Part 55, which implemented Section 306 of the NWPA of 1982. A copy of the FRN is located in NUREG-1262. Briefly review some of the questions and answers in the NUREG to get a sense for its content, as it will be a useful reference in the future. (Note that NUREG-1262 provides a useful historical perspective but that some of the answers have been overtaken by changes in the operator licensing regulations, policies, and guidance.)
4. Locate a copy of Part 50 (it's also on the web) and review the license conditions applicable to the OL program.
5. Find the OL program history / chronology on the OL web site and familiarize yourself with the major events since the accident at TMI, which initiated a round of changes in the OL and training areas.
6. Review the Office of Public Affairs' OL Program Fact Sheet on the web site. This provides a brief overview of the major program changes since 1995.
7. Locate and review an NRC organization chart, with emphasis on the regional operator licensing organization and how it fits into the NRR OL program.
8. Locate and review the NRR OL Program Office manual chapters that describe the regional audit and oversight functions including the Report on Interaction (ROI) process.

**DOCUMENTATION:** OL Examiner Signature and Certification Card Item ISA-OLE-2

## OL Examiner Individual Study Activity

**TOPIC:** (ISA-OLE-3) License Eligibility Requirements and Guidelines

**PURPOSE:** The purpose of this activity is to familiarize you with the regulatory requirements, regulatory guidelines, and industry standards related to NRC reactor operator and senior operator license eligibility. It also provides exposure to the Operator Licensing Tracking System (OLTS) and docket files.

**COMPETENCY  
AREA:**

REGULATORY FRAMEWORK

**LEVEL OF  
EFFORT:**

16 hours

**REFERENCES:**

1. Subparts B, C, and D of 10 CFR 55; 55.47 (W)
2. NRC Forms 398 and 396 (W)
3. Licensing Basis Documents (TS and FSAR)
4. Regulatory Issue Summary 2001-01 (W)
5. Regulatory Guide 1.8 (W)
6. ANSI/ANS 3.1
7. National Academy for Nuclear Training Document 00-003
8. Regulatory Guide 1.134 (W)
9. IN 98-37 (W)
10. ANSI/ANS 3.4
11. ES-202 and ES-204 of NUREG-1021 (W)
12. OLTS Users' Guide
13. Associated FAQs (W), additional guidance (W), and ROIs issued since the last NUREG-1021 revision

**EVALUATION  
CRITERIA:**

At the completion of this activity you should be able to:

1. Discuss the regulatory requirements for operator license eligibility, including medical fitness, waivers and exemptions, the license application process, and facility licensing basis (TS and FSAR) documents.
2. Discuss the background documents (ANSI, ACAD, and RG) that provide guidance regarding licensed operator experience and training.
3. Discuss the background documents (ANSI and RG) that provide guidance regarding licensed operator medical qualifications.
4. Discuss the implementation of the license application and waiver processes, including applicant and regional

responsibilities, the handling of forms, establishment of docket files, and the making of OLTS entries.

5. Discuss the types of waivers, who has the authority to approve them, and how they are documented.

**TASKS:**

1. Review Subparts B, C, and D of Part 55, which cover the regulatory requirements for operator license eligibility, including medical fitness, exemptions, and the license application process. Also review Section 55.47 regarding examination waivers.
2. Review IN 98-37 and RIS 2001-01 on the OL web site. Obtain a copy of and review the background documents (ANSI 3.1, ACAD 00-003, and RG 1.8) that provide guidance regarding licensed operator experience and training. Familiarize yourself with the guidelines for other staff positions, but focus primarily on licensed operators and senior operators. Although you should focus primarily on the current version of each document, peruse previous versions (i.e., ANSI 18.1-1971 and 3.1-1981, and RG 1.8, Rev. 2) to get a sense of the evolutionary changes affecting licensed operators.
3. Obtain and review copies of the background documents (ANSI 3.4-1996 and RG 1.134, Rev. 3) that provide guidance regarding licensed operator medical qualifications. Many licensees are still using the previous version of each document, so be sure to review them as well.
4. Review the license application process in ES-202 and the waiver process in ES-204 of NUREG-1021. Familiarize yourself with the applicants' and regional office's responsibilities, the handling of forms, establishment of docket files, making of OLTS entries, and the approval and documentation of waivers.
5. Obtain an OLTS system demonstration from the operator licensing assistant and, by reviewing the OLTS users' guide, familiarize yourself with the data that is stored in the system and the reports that it is capable of generating.
6. Review a sample of docket files to familiarize yourself with their contents.
7. Review the OL web site for FAQs related to license eligibility and review any related ROIs issued since the last revision of NUREG-1021 was published.

**DOCUMENTATION:** OL Examiner Signature and Certification Card Item ISA-OLE-3



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## OL Examiner Individual Study Activity

**TOPIC:** (ISA-OLE-4) Initial Operator Licensing Process

**PURPOSE:** The purpose of this activity is to familiarize you with the initial operator licensing process, including examination scheduling and coordination, and post-examination activities.

**COMPETENCY AREA:**

INSPECTION  
ASSESSMENT AND ENFORCEMENT

**LEVEL OF EFFORT:**

16 hours

**REFERENCES:**

1. 10 CFR 55.40; 55.49 (W)
2. SECY-98-266 (W)
3. ES-201 and ES-501 of NUREG-1021 (W)
4. Associated FAQs (W), additional guidance (W), and ROIs issued since the last NUREG-1021 revision
5. Summary of examination security incidents; IN 98-15 (W)
6. Latest Regulatory Issue Summary (RIS) Requesting Schedule Inputs (e.g., RIS 2002-09) (W)
7. Operator Licensing Schedules (RPS and W)
8. Latest Annual SECY Report on the Status of OL Programs (e.g., SECY-02-044) (W)

**EVALUATION CRITERIA:**

At the completion of this activity you should be able to:

1. Discuss the regulatory requirements regarding the implementation of facility-prepared exams (55.40 and 55.49) and the associated vulnerabilities.
2. Discuss the NRC's expectations regarding examination security.
3. Enumerate and describe the major tasks associated with scheduling, coordinating, and developing an initial licensing examination.
4. Enumerate and describe the major tasks associated with documenting an initial licensing examination, such as processing the licensing actions and proposed denials, writing the examination report, and maintaining the associated examination records.

**TASKS:**

1. Review SECY-98-266 (including all attachments) and 10 CFR 55.40 and 55.49 to familiarize yourself with the regulatory basis for the most recent Part 55 rule change that gave facility licensees the option of preparing their own examinations. Pay

particular attention to the discussion of vulnerabilities associated with the new examination process.

2. Review ES-201 of NUREG-1021 to familiarize yourself with the responsibilities and major tasks associated with an initial licensing examination. Pay particular attention to the personnel restrictions and examination security guidelines in Attachment 1. (Don't spend a lot of time on the Outline Quality Checklist (Form ES-201-2) because that will be covered in later activities.)
3. Obtain and review a summary of the recent examination security incidents.
4. Review the latest RIS requesting examination schedule information and the regional examination schedules on RPS and the OL web site.
5. Review ES-501 of NUREG-1021 to familiarize yourself with the responsibilities and major tasks associated with documenting an initial licensing examination, such as processing the licensing actions, the proposed denials, the examination report and the associated examination records.
6. Locate and review a facility examination file to familiarize yourself with its contents; match the contents with the list in Section F.1 of ES-501. Note which items are available to the public and which ones are protected by the Privacy Act.

**DOCUMENTATION:** OL Examiner Signature and Certification Card Item ISA-OLE-4

## OL Examiner Individual Study Activity

**TOPIC:** (ISA-OLE-5) Overview of Generic Concepts Related to Examination Development

**PURPOSE:** The purpose of this activity is to familiarize you with the concepts of examination validity and reliability and other generic psychometric principles.

**COMPETENCY AREA:** INSPECTION  
TECHNICAL AREA EXPERTISE

**LEVEL OF EFFORT:** 4 hours

**REFERENCES:**

1. Appendices A and B of NUREG-1021 (W)
2. NUREG-1122 / 1123 (W)

**EVALUATION CRITERIA:** At the completion of this activity you should be able to:

1. Explain the three principle aspects of examination validity and the techniques that the NRC uses to maintain the validity of its examinations.
2. Explain the concept of examination reliability and how it is maintained on NRC examinations.
3. Explain the generic psychometric principles that examination authors should observe when preparing NRC examinations.

**TASKS:**

1. Review Appendix A of NUREG-1021 to familiarize yourself with the concepts of examination validity and reliability.
2. Review Appendix B of NUREG-1021 to familiarize yourself with the generic psychometric principles that help enhance the validity of NRC examinations.
3. Review Section 1 of NUREG-1122 or 1123 (depending on the type of reactor on which you will be certifying) to familiarize yourself with the organization of the catalog. Briefly review the remainder of the catalog to get a sense for the types of knowledge and abilities covered in the generic, plant systems, emergency and abnormal plant evolutions, components, and theory sections.

**DOCUMENTATION:** OL Examiner Signature and Certification Card Item ISA-OLE-5

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## OL Examiner Individual Study Activity

**TOPIC:** (ISA-OLE-6) Generic Fundamentals Examination (GFE) Program

**PURPOSE:** The purpose of this activity is to familiarize you with the generic fundamentals section of the written licensing examination.

**COMPETENCY  
AREA:**

INSPECTION  
TECHNICAL AREA EXPERTISE

**LEVEL OF  
EFFORT:**

4 hours

**REFERENCES:**

1. 10 CFR 55.41 (W)
2. ES-205 of NUREG-1021 (W)
3. Associated FAQs (W), additional guidance (W), and ROIs issued since the last NUREG-1021 revision
4. Sections 5 and 6 of NUREG-1122 (or 1123) (W)
5. GFE Web Site

**EVALUATION  
CRITERIA:**

At the completion of this activity you should be able to:

1. Discuss the regulatory basis for the GFE.
2. Discuss the design, development, and administration of the GFE, including the responsibilities and authorities of the individuals and organizations involved with the GFE program.
3. Differentiate the types of knowledge and ability that are appropriate for testing on the GFE.

**TASKS:**

1. Review 10 CFR 55.41 and identify those items that are appropriate for testing on a generic fundamentals examination.
2. Review ES-205 of NUREG-1021 and familiarize yourself with the responsibilities of the parties involved in the GFE program.
3. Review ES-205, the "General Information" page of the GFE website, and Sections 5 and 6 of NUREG-1122 (or 1123 as applicable) and familiarize yourself with the scope and structure of the GFE.

4. Review the last GFE on the web site and sample the questions in the BWR or PWR (as appropriate) question bank to familiarize yourself with the types of questions used on a GFE.

**DOCUMENTATION:** OL Examiner Signature and Certification Card Item ISA-OLE-6

## OL Examiner Individual Study Activity

**TOPIC:** (ISA-OLE-7) Operator Licensing Written Examinations

**PURPOSE:** The purpose of this activity is to familiarize you with the development, administration, and grading of the written site-specific initial licensing examination.

**COMPETENCY AREA:** INSPECTION  
TECHNICAL AREA EXPERTISE

**LEVEL OF EFFORT:** 40 hours

**REFERENCES:**

1. 10 CFR 55.41 and 55.43 (W)
2. ES-401, ES-402, ES-403, and ES-501 of NUREG-1021 (W)
3. Form ES-201-2 (W)
4. IN 98-28 (W)
5. Appendices B and E of NUREG-1021 (W)
6. Associated FAQs (W), additional guidance (W), and ROIs issued since the last NUREG-1021 revision
7. Sections 1 - 4 of NUREG-1122 (or 1123) (W)
8. ES-701 of NUREG-1021 (W)
9. National Examination Bank

**EVALUATION CRITERIA:** At the completion of this activity you should be able to:

1. Explain the regulatory basis for the site-specific written examination and the content differences between the RO and SRO exams.
2. Explain the breakdown in responsibilities for the parties involved in developing, administering, and grading the written examinations.
3. Explain how the written examination is prepared, including development of the examination outline, the selection / development of questions, and measures taken to maintain validity and quality.
4. Explain the principles and policies for developing psychometrically sound multiple choice questions.



5. Explain the procedures and policies regarding administration of the written examination, including measures to protect exam security and integrity.
6. Explain the procedures for grading the written examinations, including quality reviews and the resolution of post-examination comments.

**TASKS:**

1. Review 10 CFR 55.41 and 55.43 to familiarize yourself with the regulatory basis for the site-specific written examination (in contrast to the GFE) and the content differences between the RO and SRO exams.
2. Review the written examination development guidance in ES-401 of NUREG-1021 to gain an understanding of the requirements for preparing a valid and unbiased examination outline, implementing the outline using a combination of bank, modified, and new questions, and reviewing the outline and the draft examination to ensure quality.
3. Review Appendix B of NUREG-1021 to reinforce the principles and guidelines for developing psychometrically sound multiple choice questions.
4. Review ES-402 of NUREG-1021 and Parts A and B of Appendix E to gain an understanding of the procedures and policies regarding administration of the written examination, including measures to protect exam security and integrity.
5. Review ES-403 and ES-501 of NUREG-1021 to familiarize yourself with the procedures for grading the written examinations, including quality reviews, the resolution of post-examination comments, and making licensing recommendations.
6. Locate and review a recently completed RO and SRO written examination for the type of facility on which you plan to certify, including copies of the facility licensee's submittal, the reviewing examiners' comments, the final examination, all the associated quality checklists, and any post-exam comments / resolutions. Pay particular attention to the types of technical and psychometric issues that were identified and corrected by the reviewing examiner(s) and the differences between the RO and SRO examinations. Discuss any questions you might have with the responsible Chief Examiner.

7. Review ES-701 of NUREG-1021 to familiarize yourself with the differences between a regular SRO written examination and the one that is used to license SROs whose responsibilities are limited to fuel handling.
8. Review the remaining reference materials for additional background information.

**DOCUMENTATION:** OL Examiner Signature and Certification Card Item ISA-OLE-7

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## OL Examiner Individual Study Activity

**TOPIC:** (ISA-OLE-8) Operator Licensing Operating Tests

**PURPOSE:** The purpose of this activity is to familiarize you with the development, administration, and grading of initial operator licensing operating tests.

**COMPETENCY AREA:** INSPECTION  
ASSESSMENT AND ENFORCEMENT  
TECHNICAL AREA EXPERTISE

**LEVEL OF EFFORT:** 40 hours

**REFERENCES:**

1. 10 CFR 55.45 (W)
2. ES-301, ES-302, ES-303 and ES-501 of NUREG-1021 (W)
3. Appendices C, D, and E of NUREG-1021 (W)
4. ES-701 of NUREG-1021 (W)
5. Associated FAQs (W), additional guidance (W), and ROIs issued since the last NUREG-1021 revision
6. Sections 1 - 4 of NUREG-1122 (or 1123) (W)
7. NUREG-1291

**EVALUATION CRITERIA:**

At the completion of this activity you should be able to:

1. Explain the regulatory basis for the operating test.
2. Explain the breakdown in responsibilities for the parties involved in developing, administering, and grading the operating tests.
3. Explain how the walk-through and dynamic simulator operating tests are prepared, including development of the test outline, the selection / development of test items, and measures taken to maintain validity and quality.
4. Describe the components of a job performance measure (JPM) and the characteristics of an alternate path JPM.
5. Describe the qualitative and quantitative attributes used to establish a basis for simulator scenario validity, including the elements of a critical task.
6. Describe the competencies and rating factors that are used to evaluate the performance of RO and SRO applicants on the dynamic simulator operating test.
7. Explain the procedures and policies regarding administration of the walk-through and dynamic simulator operating tests, including measures to protect exam security and integrity.

8. Explain the procedures for grading the walk-through and dynamic simulator operating tests, including quality reviews and licensing recommendations.

**TASKS:**

1. Review 10 CFR 55.45 to familiarize yourself with the regulatory basis for the operating test.
2. Review the operating test development guidance in ES-301 of NUREG-1021 to gain an understanding of the requirements for preparing the walk-through and simulator operating test outline, implementing the outline using a combination of bank, modified, and new test items, and reviewing the outline and the draft operating tests to ensure quality.
3. Review Appendices C and D of NUREG-1021 to familiarize yourself with the principles and policies for developing valid JPMs and dynamic simulator scenarios.
4. Review ES-302 of NUREG-1021, Section D of Appendix C, Section F of Appendix D, and Parts C, D, and E of Appendix E to gain an understanding of the procedures and policies regarding administration of the operating tests, including measures to protect test security and integrity.
5. Review ES-303 and ES-501 of NUREG-1021 to familiarize yourself with the procedures for grading the walk-through and dynamic simulator operating tests, including quality reviews and making licensing recommendations.
6. Locate and review the operating test documentation (Form ES-303-1) for an applicant who failed at least one category of the operating test.
7. Locate and review a recently completed operating test for the type of facility on which you plan to certify, including copies of the facility licensee's submittal, the reviewing examiners' comments, the final approved test, and all the associated quality checklists. Pay particular attention to the types of technical and psychometric issues that were identified and corrected by the reviewing examiner(s). Discuss any questions you might have with the responsible Chief Examiner.
8. Review ES-701 of NUREG-1021 to familiarize yourself with the differences between a regular SRO operating test and the one that is used to license SROs whose responsibilities are limited to fuel handling.
9. Review the remaining reference materials for additional background information.

**DOCUMENTATION:**

OL Examiner Signature and Certification Card Item ISA-OLE-8

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## OL Examiner Individual Study Activity

**TOPIC:** (ISA-OLE-9) Technical Specifications

**PURPOSE:** The NRC requires that licensees operate their facilities in compliance with the Technical Specifications (TS) approved by the NRC. The TS provide the limits for facility operation that the licensee must comply with or receive NRC approval to deviate from the requirements. For this reason, it is mandatory that all examiners gain a detailed knowledge of the content of the TS.

This activity will provide you with detailed knowledge of the contents of the TS, where a requirement exists for any specific topic, and how to apply the TS requirements.

**COMPETENCY AREA:** INSPECTION  
REGULATORY FRAMEWORK

**LEVEL OF EFFORT:** 24 Hours

**REFERENCES:**

1. Technical Specifications for a facility designated by your supervisor
2. NRC Inspection Manual Part 9900, Technical Guidance, STS Chapters designated by your supervisor
3. Standard TS for the vendor of your designated facility

**EVALUATION CRITERIA:** At the completion of this activity, you should be able to:

1. For the facility TS, as designated by your supervisor, be able to identify each TS section, discuss the general content of the requirements contained in each section, and the basis for issuing the requirements.
2. Discuss the following with respect to the operating license: legal basis, purpose, license conditions, and how the license can be changed.
3. Discuss the definition of the terms found in the TS.
4. Discuss the safety limits and limiting safety system settings listed and the significance of these limits.
5. Discuss the requirements for limiting conditions for operation (LCO) and surveillance testing, and what actions are required if the requirements are not met.

6. Discuss the different sections of LCOs and the reason for the basis section provided with each LCO section.
7. Discuss the Design Features section of the TS and the types of information located in this section.
8. Discuss the Administrative Controls section of the TS and the types of information located in this section.
9. For the Technical Requirements Manual (TRM), discuss the: purpose, legal basis of using as a violation source document, and how requirements can be changed.
10. Discuss purpose, legal basis, and applicability of each of the chapters in NRC Inspection Manual Part 9900, Technical Guidance section, that were designated by your supervisor.

**TASKS:**

1. Locate a copy of the TS for the facility designated by your supervisor.
2. Review the various sections of the TS, as listed in the Evaluation Criteria section.
3. Review the content of the TRM or other document referenced by the technical specifications to determine the types of requirements provided.
4. On the NRC External Web, locate the NRC Inspection Manual Part 9900, Technical Guidance, STS Chapters. Review the chapters that were designated by your supervisor
5. Meet with your supervisor or a qualified OI Examiner to discuss any questions you may have as a result of this activity. Discuss the answers to the questions listed under the Evaluation Criteria section of this study guide with your supervisor.

**DOCUMENTATION:**

OL Examiner Technical Proficiency Level Qualification  
Signature Card Item ISA-OLE-9



## OL Examiner Individual Study Activity

**TOPIC:** (ISA-OLE-10) Operability

**PURPOSE:** The process of ensuring that equipment at nuclear power plants is capable of performing its safety function is continuous and consists primarily of verification by surveillance testing and formal determinations of operability. Whenever the ability of a system or structure to perform its specified function is called into question, licensees should make a prompt determination (or evaluation) of operability and act on the results of that determination. It is important that NRC OL Examiners can effectively review these evaluations to ensure that operability is properly justified, the system or component remains available, and that no unrecognized increase in risk has occurred.

This activity will familiarize you with the overall approach for reviewing operability determinations (evaluations) and the reference materials available to assist you in these reviews.

**COMPETENCY AREA:** INSPECTION  
TECHNICAL AREA EXPERTISE

**LEVEL OF EFFORT:** 20 Hours

**REFERENCES:**

1. NRC Inspection Manual, Part 9900, Technical Guidance (sections on Operability)
2. Generic Letter (GL) 91-18, "Information to Licensees Regarding NRC Inspection Manual Section on Resolution of Degraded and Nonconforming Conditions"
3. Inspection Procedure 71111.15, "Operability Evaluations"
4. Reference or assigned site (licensee) procedures addressing operability determinations
5. Information Notice 97-78, "Credit of Operator Actions in Place of Automatic Actions and Modification of Operator Actions, including Response Time"
6. Regulatory Issue Summary 2001-09, "Control of Hazard Barriers"
7. GL 90-05, "Guidelines for Performing Temporary Non-Code Repairs of ASME Code Class 1, 2 and 3 Piping"

**EVALUATION CRITERIA:** Upon completion of the tasks, you should be able to:

1. Define the following terms and provide examples of each term.
  - Operable/operability
  - Degraded condition
  - Abnormal condition
  - Nonconforming condition
  - Justification for continued operation (JCO)
  - Single failure
  - Consequential failure
  - Support system
  - Compensatory measures
2. Describe the licensee's process of addressing operability issues for safety or safety support systems.
3. Describe what the applicable NRC guidance indicates should be included in formal operability determinations.
4. Discuss what actions should be taken if a licensee is unable to demonstrate equipment operability.
5. Discuss what appropriate items should be considered in a licensee's development of a JCO.
6. Perform the inspection described in Inspection Procedure 71111.15, Operability Evaluations. This includes effective review of the technical adequacy of an operability evaluation and development of a conclusion on whether the operability is justified.

**TASKS:**

1. Locate the listed references for your facility. Non-licensee documents can be located in the Electronic Reading Room on the NRC External Web site.
2. Review the references to develop an understanding of what the NRC guidance and licensee procedures specify as actions to be completed when an operability question is identified.
3. Review at least two recently completed operability evaluation(s) involving a risk significant system, support system or component. Compare the evaluations to the reference material guidance.

4. Verify that licensee considered other existing degraded conditions as compensating measures, and determine if the measures are in place, will work as intended, and appropriately controlled. Verify that the licensee's intended long-term resolution of any conditions meets the regulatory guidance.
5. Meet with your supervisor or a qualified Operations inspector to discuss the operability evaluations. Discuss some questions you could ask to help you verify that the evaluations properly support the operability decision. Additionally, discuss any questions that you have as a result of this activity and demonstrate that you can meet the evaluation criteria listed above.

**DOCUMENTATION:** OL Examiner Technical Proficiency Level Qualification  
Signature Card Item ISA-OLE-10

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## OL Examiner Individual Study Activity

**TOPIC:** (ISA-OLE-11) Shutdown Operations

**PURPOSE:** The purpose of this activity is to provide you with detailed knowledge of shutdown operations that impose risks to public health and safety even though the facility is shutdown. When vital structures, systems, and components are removed from service for maintenance or refueling, risks to the facility can become high. The systems and activities that impose the greatest risk include decay heat removal systems, containment isolation systems, reduced water inventory periods (i.e., mid-loop in PWRs), switchyard work, refueling operations, and any transient activity (i.e., cooldown, heatup, startup, etc.).

**COMPETENCY AREA:** INSPECTION  
TECHNICAL AREA EXPERTISE

**LEVEL OF EFFORT:** 30 Hours

**REFERENCES:**

1. Technical Specifications for your assigned facility designated by your supervisor
2. Licensee procedures for loss of decay heat removal, reactivity control, containment integrity, and refueling for your assigned facility
3. Regional policy and instructions, if available
4. Inspection Procedure 71111.20, "Refueling and Outage Activities"

**EVALUATION CRITERIA:** At the completion of this activity, for your assigned facility, you should be able to:

1. Discuss the risks of shutdown operations.
2. Discuss the importance of maintaining decay heat removal during shutdown.
3. Discuss the methods of reactivity control during core alterations both in the core and in the spent fuel pool.

4. Discuss the requirements for containment/reactor building integrity during shutdown, refueling, and maintenance activities that require large equipment to be moved into and out of the reactor building/containment.
5. Discuss the importance of mode changes and what constitutes a mode change.
6. Discuss the risks involved with reduced inventory operations.
7. Discuss the risk involved with electrical work both in the plant and in the switchyard.
8. Discuss what type of items should be reviewed when reviewing the outage schedule.
9. Discuss the various means of monitoring vessel level and the importance of knowing the level.
10. Discuss the purpose of a containment closeout walkdown.

**TASKS:**

1. Review your designated facility licensee's TS and procedures for loss of decay heat removal, reactivity control, containment integrity, and refueling for your assigned facility
2. Review the requirements of Inspection Procedure 71111.20, as designated by your supervisor.
3. Meet with your supervisor or a qualified OL Examiner to discuss any questions that you may have as a result of this activity and demonstrate that you can meet the evaluation criteria listed above.

**DOCUMENTATION:**

OL Examiner Proficiency Level Qualification Signature Card  
Item ISA-OLE-11

## OL Examiner Individual Study Activity

**TOPIC:** (ISA-OLE-12) Operator Licensing Appeals and Hearings

**PURPOSE:** The purpose of this activity is to familiarize you with the procedures for conducting informal administrative reviews and formal hearings in response to applicant appeals of proposed license denials.

**COMPETENCY AREA:** REGULATORY FRAMEWORK

**LEVEL OF EFFORT:** 6 hours

**REFERENCES:**

1. 10 CFR 2.103 and Subpart L (W)
2. ES-202, ES-501, and ES-502 of NUREG-1021 (W)
3. Associated FAQs (W), additional guidance (W), and ROIs issued since the last NUREG-1021 revision
4. OL Manual Chapter 500 (ML022350290)
5. NRR Process Standard for Administrative Reviews and Hearings

**EVALUATION CRITERIA:** At the completion of this activity you should be able to:

1. Discuss the regulatory basis for the appeal and hearing process.
2. Explain the responsibilities of the various parties involved in the appeal and hearing process.
3. Describe the informal administrative review procedures for application denials and proposed examination failures.
4. Describe the operator licensing appeal hearing process used by the Atomic Safety and Licensing Board (ASLB).

**TASKS:**

1. Review 10 CFR 2.103 and Subpart L to familiarize yourself with the regulatory basis for the appeal / hearing process.

2. Review ES-202, ES-501, and ES-502 of NUREG-1021 to familiarize yourself with the proposed denial and appeal process and the responsibilities of the parties involved.
3. Review OL Manual Chapter 500 and the NRR Process Standard for Administrative Reviews and Hearings to familiarize yourself with the NRR OL Program Office and ASLB procedures for handling appeals.

**DOCUMENTATION:** OL Examiner Signature and Certification Card Item ISA-OLE-12



## OL Examiner Individual Study Activity

- TOPIC:** (ISA-OLE-13) Systems Approach to Training (SAT)
- PURPOSE:** The purpose of this activity is to familiarize you with the training rule and the systems approach to training.
- COMPETENCY AREA:** ASSESSMENT AND ENFORCEMENT  
REGULATORY FRAMEWORK  
INSPECTION
- LEVEL OF EFFORT:** 8 hours
- REFERENCES:**
1. Section 306 of the Nuclear Waste Policy Act of 1982 (W)
  2. 10 CFR 50.120 (W)
  3. 10 CFR 55.4 (W)
  4. Training Rule History (W)
  5. "Commission Policy Statement(s) on Training and Qualification of Nuclear Power Plant Personnel," published in Federal Register, Vol. 50, March 20, 1985, pp. 11147-48, and Vol. 53, November 18, 1988, pp. 46603-05.
  6. IP-41500 (W)
  7. NUREG-1220
- EVALUATION CRITERIA:** At the completion of this activity you should be able to:
1. Explain the statutory and regulatory bases for the systems approach to training.
  2. Describe the five elements of a systems approach to training.
  3. Discuss the major events in the development of the NRC's policy on the training and qualification of nuclear power plant workers.
- TASKS:**
1. Review Section 306 of the NWPA, 10 CFR 50.120, and 55.4 to familiarize yourself with the statutory and regulatory bases for the systems approach to training.
  2. Review the history of the training rule on the OL web site and the Commission Policy Statements on Training and Qualification of Nuclear Power Plant Personnel to gain an understanding of the significant events that shaped the NRC's current training policy.

3. Review NUREG-1220 and IP 41500 to familiarize yourself with the five elements of a systems approach to training and the guidance to the staff for reviewing nuclear power training programs to verify compliance with the regulations.

**DOCUMENTATION:** OL Examiner Signature and Certification Card Item ISA-OLE-13

## OL Examiner Individual Study Activity

**TOPIC:** (ISA-OLE-14) Licensed Operator Requalification and Other License Conditions

**PURPOSE:** The purpose of this activity is to familiarize you with the NRC's program for overseeing licensed operator requalification training programs and monitoring and enforcing operators' compliance with other license conditions.

**COMPETENCY AREA:** ASSESSMENT AND ENFORCEMENT  
REGULATORY FRAMEWORK  
INSPECTION

**LEVEL OF EFFORT:** 16 hours

**REFERENCES:**

1. Subparts F, G, and H of 10 CFR 55 (W)
2. ES-501 of NUREG-1021 (W)
3. IP 71111.11 (W)
4. Associated FAQs (W), additional guidance (W), and ROIs issued since the last NUREG-1021 revision
5. Significance Determination Process (Appendix I to NRC Inspection Manual Chapter 0609) (W)
6. ES-600 Series of NUREG-1021 (W)
7. Regulatory Guide 1.114

**EVALUATION CRITERIA:** At the completion of this activity you should be able to:

1. Discuss the regulatory conditions with which licensed operators must comply, including expiration, renewal, and requalification.
2. Discuss the conditions under which the NRC could revoke, modify, or suspend an operator's license and those under which it could take enforcement action.
3. Describe the NRC's program for overseeing licensed operator requalification training programs, including periodic inspections and NRC-conducted examinations and the conditions under which each would be performed.
4. Describe the NRC's guidance on acceptable methods of complying with the regulations that require operators to be present at the controls.

**TASKS:**

1. Review 10 CFR 55.53, Attachment 3 of ES-501, Section C of ES-605, and the list of special license conditions available from

the operator licensing assistant to familiarize yourself with the license conditions applicable to nuclear power plant operators.

2. Review 10 CFR 55.55, 55.57, and Section D of ES-605 to familiarize yourself with the requirements related to the expiration and renewal of operators' licenses.
3. Review 10 CFR 55.59 to familiarize yourself with the requirements for licensed operator requalification programs.
4. Review IP-71111.11 and the associated Significance Determination Process (SDP) to familiarize yourself with the NRC's procedure for evaluating licensed operator requalification training programs at power reactor facilities.
5. Review ES-601, ES-602, ES-603, ES-604, and Section E of ES-605 to familiarize yourself with the procedures that the NRC would use to conduct for-cause requalification examinations.
6. Review RG 1.114 to gain an understanding of the NRC's expectations regarding being an operator at the controls of a nuclear power plant.

**DOCUMENTATION:** OL Examiner Signature and Certification Card Item ISA-OLE-14

## OL Examiner Individual Study Activity

**TOPIC:** (ISA-OLE-15) Power Plant Simulators

**PURPOSE:** The purpose of this activity is to familiarize you with the NRC's regulations and policies regarding the use of simulation facilities for the administration of operating tests and plant-referenced simulators to meet experience requirements for operator and senior operator licenses.

**COMPETENCY AREA:** ASSESSMENT AND ENFORCEMENT  
INSPECTION  
REGULATORY FRAMEWORK

**LEVEL OF EFFORT:** 8 hours

**REFERENCES:**

1. 10 CFR 55.4 and 55.46 (W)
2. SECY-01-0125 (W)
3. Regulatory Guide 1.149 (W)
4. Rule change implementation guidance (IP71111.11)
5. ES-302, ES-501, and Appendix D of NUREG-1021 (W)
6. FAQs related to simulators (W)
7. ANSI/ANS 3.5 (1985, 1993, and 1998 versions)

**EVALUATION CRITERIA:** At the completion of this activity you should be able to:

1. Discuss the regulatory basis for the NRC's policies regarding the use of simulation facilities.
2. Discuss the methods acceptable to the NRC staff for complying with the regulations associated with the use of simulation facilities in operator training and license examinations.
3. Discuss the guidance to examiners regarding simulator operability and security while administering operating tests.

**TASKS:**

1. Review 10 CFR 55.4, 55.46 and SECY-01-0125 to familiarize yourself with the regulatory basis behind the NRC's policies regarding the use of power plant simulation facilities.

2. Review RG 1.149 (Revisions 2 and 3) and ANSI/ANS 3.5 (1985 and 1998) to familiarize yourself with acceptable methods for complying with the regulations regarding the use of simulation facilities for operator training and examinations.
3. Review the guidance to examiners in NUREG-1021 for ensuring that facility licensees are complying with 10 CFR 55.46.
4. Review Section D.3.p of ES-302 and Section F of Appendix D to familiarize yourself with possible indications of an inoperable simulator and security considerations for administering simulator tests.
5. Review Section E.3.c and Attachment 2 of ES-501 to familiarize yourself with the requirements for documenting simulator fidelity problems in the examination report.

**DOCUMENTATION:** OL Examiner Signature and Certification Card Item ISA-OLE-15

## **OL Examiner On-the-Job Training (OJT) Activities**

The OJT activities require OL Examiner candidates to conduct examination-related work, under supervision, at reactor facilities and in the regional office. These activities are designed to allow examiner candidates to observe and perform key examiner tasks under controlled circumstances. Like the individual study activities, each of the OJT activities indicates why the activity is important, how much time it might take to complete the assignment, and what is expected to be completed successfully during the activity.

Participation in a licensed operator requalification program inspection (IP 71111, Attachment 11) pursuant to Basic-Level OJT Activity (4), "Inspection Activities," also satisfies the criteria of OL Examiner OJT Activity (4) "Requalification Inspection." Examiner candidates who did not participate in a requalification program inspection as part of their Basic Inspector Qualification must repeat Basic-Level OJT Activity (4) during a requalification inspection.

OJT Activity (2), "Conduct of Operations," is similar to OJT-OPS-2 in Appendix C1, "Reactor Operations Inspector Technical Proficiency Training and Qualification Journal." You may document completion of equivalent activities on both Signature Cards.

The following general guidance applies as you complete the OL Examiner OJT Activities:

- The activities should generally be completed in the order in which they are presented, unless otherwise directed by the regional OL BC.
- All parts of each activity must be completed.
- The regional OL BC will act as a resource as you complete each activity. Discuss any questions you may have about how a task must be done or how the guidance is applied. The OL BC may also designate a qualified Chief Examiner to work with you as you complete the various activities.
- You are responsible for keeping track of what tasks you have completed. Be sure that you have completed all aspects of an OJT activity before you meet with the regional OL BC for evaluation.



## OL Examiner On-the-Job Activity

- TOPIC:** (OJT-OLE-1) Observe Initial Licensing Examinations (2)
- PURPOSE:** The purpose of this activity is to familiarize you with the on-site activities performed by operator license examiners. This on-the-job training will prepare you to conduct initial operator licensing examinations in accordance with NUREG-1021.
- COMPETENCY AREA:** INSPECTION
- LEVEL OF EFFORT:** 160 hours
- REFERENCES:**
1. NUREG-1021
  2. Proposed examinations and operating tests
  3. Individual operating test reports
  4. The examination report
- EVALUATION CRITERIA:**
- Complete the activities outlined in this guide and meet with the regional OL BC to discuss any questions you may have. Upon completion of the tasks in this guide, you should be able to:
1. Describe the procedure for reviewing / validating draft operator licensing examinations with the facility licensee.
  2. Describe the miscellaneous on-site activities associated with the administration of operator licensing examinations, including the entrance and exit meetings, applicant briefings, and proctoring the written examination.
  3. Describe the policies and procedures for conducting, documenting, and evaluating all aspects of the operating test.
- TASKS:**
1. In preparation for the on-site activities, review ES-302, ES-303, ES-402, Appendix E, Section D of Appendix C, and the proposed examinations and operating tests, including the NRC's review comments.
  2. Participate in at least two written examination and operating test reviews / validations with the facility licensee. At least one of these must include a preparatory site visit to the facility. Discuss any observations and questions you may have with the Chief Examiner or OL BC.
  3. Participate in at least two examination site visits, with different Chief Examiners; observation trips to exams in other regions are encouraged. Observe all significant on-site activities

including the entrance briefing (if one is requested), the applicant briefings, all examination team discussions, and the exit meeting. Discuss any observations and questions you may have with the Chief Examiner or OL BC.

4. While on-site, observe as many complete operating test administrations as possible, including at least one RO, one instant SRO, and one upgrade SRO, administered by as many different examiners as possible. During each test, try to anticipate the need for follow-up questions based on the applicant's performance of the task. Discuss any observations and questions you may have with the examiner of record after the test is complete.
5. For the worst-performing applicant you observed during each exam assignment, independently evaluate and document the applicant's performance in accordance with ES-303. Discuss your writeup with the Chief Examiner. Also, review the operating test documentation for each applicant whose test you observed, and discuss the results with the examiner of record.

**DOCUMENTATION:**

OL Examiner Signature and Certification Card Item OJT-OLE-1

## OL Examiner On-the-Job Activity

**TOPIC:** (OJT-OLE-2) Conduct of Operations

**PURPOSE:** The overall conduct of operations is an essential element in the safe operation of a nuclear power plant. Operator attentiveness and professionalism, control room environment, shift turnover, configuration controls, and the conduct of evolutions are typically addressed in licensee procedures. This activity will familiarize you with the various licensee procedural controls over these activities and applicable regulatory requirements.

**COMPETENCY AREA:** INSPECTION  
TECHNICAL AREA EXPERTISE

**LEVEL OF EFFORT:** 40 Hours

- REFERENCES:**
1. Licensee procedures addressing the conduct of operations. This typically involves procedures addressing such issues as: Use of Procedures, Independent Verification, Responsibilities of Licensed Operators, Definition of "at the controls", Shift Manning and Turnover, Control of Evolutions, Equipment Status and Alignment, Tagging, Annunciator Controls, and Entry into TS Limiting Conditions for Operation.
  2. Plant Operating License and Technical Specifications
  3. Manual Chapter 2515D, Plant Status
  4. Inspection Procedure 71707, Plant Operations
  5. Inspection Procedure 71715, Sustained Control Room and Plant Observations
  6. Regulatory Guide 1.33, QA Program Requirements (Operations)
  7. ANSI-N18.7-1976, QA for Operational Phase of Nuclear Power Plant

**EVALUATION CRITERIA:** Upon completion of the tasks, you should be able to:

1. Generally describe the licensee's processes for conduct of operations. The description should include activities such as: Use of Procedures, Independent Verification, Responsibilities of Licensed Operators, Definition of "at the controls" or other control room areas, Shift Manning and Turnover, Control of

Evolutions, Equipment Status and Alignment, Annunciator Controls, and Entry into TS Limiting Conditions for Operation. Where applicable, explain the regulatory requirements which require the development and implementation of these procedures.

2. Be able to identify active technical specifications (TS) limiting conditions for operation (LCOs) and major equipment out-of-service through reviews of control room documentation or status boards.
3. Tour the control room, observe operating practices, and determine if procedural guidance is being implemented correctly, operators are maintaining shift professionalism, and activities are properly controlled and coordinated.
4. Evaluate the adequacy of control room shift turnovers, response to annunciators, and control room communications.
5. Verify that procedures for annunciator controls such as disabled annunciators and nuisance alarms are implemented properly.

**TASKS:**

1. Locate the listed references for your assigned or reference facility.
2. Review the licensee's procedures and develop an understanding of the licensee's expectations for the conduct of operations. These efforts should include comparison to implementation such as control room logs, equipment out of service logs, standing orders, night orders, operator work-arounds, work control center activities, and briefings.
3. Observe at least two different shift turnovers, including RO and SRO turnover and verify that activities are conducted in accordance with procedures.
4. Observe the implementation of tagging procedures, including development and review of at least one tagout, hanging of tags, verifications of tags, and removal and restoration activities.
5. Observe portions of a valve alignment/alignment verification involving an important system as necessary to understand the licensee's processes.
6. Perform the activities described in Manual Chapter 2515D, Plant Status.

7. Meet with your supervisor or a qualified Operations inspector to discuss any questions that you may have as a result of these activities and demonstrate that you can meet the evaluation criteria listed above.

**DOCUMENTATION:** OL Examiner Proficiency Level Qualification Signature Card  
Item OJT-OLE-2

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## OL Examiner On-the-Job Activity

- TOPIC:** (OJT-OLE-3) Prepare, Administer, and Grade an Operating Test
- PURPOSE:** The purpose of this activity is to familiarize you with the procedures for preparing, administering, and grading a complete operating test in accordance with NUREG-1021.
- COMPETENCY AREA:** INSPECTION  
ASSESSMENT AND ENFORCEMENT
- LEVEL OF EFFORT:** 200 hours
- REFERENCES:**
1. ES-201, ES-301, ES-302, and ES-303 of NUREG-1021
  2. NUREG-1122 or 1123
  3. Facility reference materials
- EVALUATION CRITERIA:** Complete the activities outlined in this guide and meet with the regional OL BC to discuss any questions you may have. Upon completion of the tasks in this guide, you will have:
1. Demonstrated your understanding of the operating test development procedures by preparing a complete operating test that meets the requirements of NUREG-1021 and obtaining approval from the regional OL BC to administer the test.
  2. Demonstrated your understanding of operating test administration procedures and techniques by satisfactorily administering a complete RO or instant SRO operating test.
  3. Demonstrated your understanding of the operating test grading and documentation procedures by satisfactorily grading and documenting your applicant's performance during the audited operating test and obtaining your auditor's and the regional OL BC's concurrence with your licensing recommendation.
- TASKS:**
1. Using ES-201, ES-301, Appendices C and D, and the reference material provided by the facility licensee, prepare a complete RO or instant SRO operating test outline, including the administrative topics, control room and facility walk-through, and dynamic simulator operating test categories. Submit the outline and all the forms and checklists required by the ES to the designated Chief Examiner for review and approval, then incorporate whatever changes are necessary prior to seeking supervisory approval to proceed with test development.

2. Upon approval by the regional OL BC, use ES-301, Appendices C and D, and the reference material provided by the facility licensee to prepare all the test items (job performance measures, prescribed questions, and dynamic simulator scenarios) and quality checklists required to implement the approved test outline. Submit all the test items and checklists required by the ES to the designated Chief Examiner for review and approval, then incorporate whatever changes are necessary prior to seeking supervisory approval to review the proposed test with the facility licensee.
3. In accordance with ES-201, upon approval by the regional OL BC, and with the assistance of the designated Chief Examiner, review and validate the proposed operating test materials with the facility licensee.
4. Review the facility licensee's comments, incorporate changes in the test materials, as appropriate, and submit the final operating test and associated checklists to the designated Chief Examiner and regional OL BC for review and approval.
5. In coordination with the designated Chief Examiner, administer a complete RO or instant SRO operating test in accordance with ES-302. Note that the entire operating test must be audited by a certified Chief Examiner (preferably the regional OL BC if he or she is certified on the technology in question), who will step in if necessary to ensure that a valid licensing decision can be made. The auditor will provide verbal and written feedback regarding your test administration but should NOT discuss information that might bias your independent assessment of the applicant's performance.
6. As soon as possible after administering the operating test, evaluate and document your applicant's performance and make an independent licensing recommendation in accordance with ES-303. Submit Form ES-303-1 and any supporting documentation to your auditor for review and approval.

**DOCUMENTATION:** OL Examiner Signature and Certification Card OJT-OLE-3



## OL Examiner On-the-Job Activity

**TOPIC:** (OJT-OLE-4) Prepare, Administer, and Grade a Written Examination

**PURPOSE:** The purpose of this activity is to familiarize you with the procedures for preparing, administering, and grading an initial operator licensing written examination in accordance with NUREG-1021.

**COMPETENCY  
AREA:**

INSPECTION  
ASSESSMENT AND ENFORCEMENT

**LEVEL OF  
EFFORT:**

500 hours

**REFERENCES:**

1. ES-201, ES-401, ES-402, and ES-403 of NUREG-1021
2. NUREG-1122 or 1123
3. Facility reference materials

**EVALUATION  
CRITERIA:**

Complete the activities outlined in this guide and meet with the regional OL BC to discuss any questions you may have. Upon completion of the tasks in this guide, you will have:

1. Demonstrated your understanding of the written examination development procedures by preparing a written examination that meets the requirements of NUREG-1021 and obtaining approval from the regional OL BC to administer the examination. (Note that partial or shared examinations will be approved by the OL program office on a case-by-case basis.)
2. Demonstrated your understanding of written examination administration procedures.
3. Demonstrated your understanding of the written examination grading procedures by satisfactorily grading and documenting the applicants' performance on the written examination you prepared and obtaining the regional OL BC's concurrence with your licensing recommendations.

**TASKS:**

1. Using ES-201, ES-401, Appendix B, and the reference material provided by the facility licensee, prepare an RO and SRO written examination outline. Submit the outline and all the forms and checklists required by the ES to the designated Chief Examiner for review and approval, then incorporate whatever changes are necessary prior to seeking supervisory approval to proceed with examination development.
2. Upon approval by the regional OL BC, use ES-401, Appendix B, and the reference material provided by the facility licensee

to select or prepare questions to implement the approved exam outline. Submit the proposed examination and checklists required by the ES to the designated Chief Examiner for review and approval, then incorporate whatever changes are necessary prior to seeking supervisory approval to review the proposed exam with the facility licensee.

3. In accordance with ES-201, upon approval by the regional OL BC, and with the assistance of the designated Chief Examiner, review the proposed examination with the facility licensee.
4. Review the facility licensee's comments, incorporate question changes, as appropriate, and submit the final examination and associated checklists to the designated Chief Examiner and regional OL BC for review and approval.
5. In coordination with the designated Chief Examiner, administer the written examination in accordance with ES-402. If the facility licensee will be conducting the exam, review the proctoring instructions with the facility contact as specified in Section C.3.k of ES-201, and, per Section C.2 of ES-402, inspect the exam facilities and act as point of contact in the regional office while the exams are in progress.
6. Grade the examinations in accordance with ES-403. Develop and document proposed resolutions for any post-examination comments received from the facility licensee, complete the grading quality checklist, and forward the examination package to the Chief Examiner for review and approval.

**DOCUMENTATION:** OL Examiner Signature and Certification Card OJT-OLE-4

## OL Examiner On-the-Job Activity

**TOPIC:** (OJT-OLE-5) Requalification Inspection  
Refer to Appendix A, OJT-4

**DOCUMENTATION:** OL Examiner Signature and Certification Card OJT-OLE-5

**ADDITIONAL REFERENCES:**

1. IP 71111.11, "Licensed Operator Requalification Program" (W)
2. IMC 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process" (W)
3. IP 71111.11 FAQs on the OL website (W)

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## **Additional Chief Examiner OJT Activities**

These additional OJT activities require Chief Examiner candidates to oversee examination-related work at reactor facilities and in the regional office. These activities are designed to allow Chief Examiner candidates to observe and perform key tasks under controlled circumstances.

The following general guidance applies as you complete the Chief Examiner OJT activities:

- The activities should generally be completed in the order in which they are presented, unless otherwise directed by the regional OL BC.
- All parts of each activity must be completed.
- The regional OL BC will act as a resource as you complete each activity. Discuss any questions you may have about how a task must be done or how the guidance is applied. The OL BC may also designate a qualified Chief Examiner to work with you as you complete the various activities.
- You are responsible for keeping track of what tasks you have completed. Be sure that you have completed all aspects of an OJT activity before you meet with the regional OL BC for evaluation.

## OL Chief Examiner On-the-Job Activity

**TOPICS:** (OJT-OLE-6) Participate on at Least Two Licensing Examination Teams (as a fully-qualified OL Examiner)

**PURPOSE:** This OJT Activity is intended to increase the Chief Examiner candidate's proficiency in implementing the operator licensing examination procedures.

**COMPETENCY AREA:** INSPECTION  
ASSESSMENT AND ENFORCEMENT

**LEVEL OF EFFORT:** 300 hours

**REFERENCES:** 1. NUREG-1021

**EVALUATION CRITERIA:** Candidates should be engaged in and satisfactorily perform all aspects of the assigned examinations as determined by the regional OL BC. No detailed evaluation criteria have been developed.

**TASKS:** Candidates should be engaged in and satisfactorily perform all aspects of the assigned examinations as determined by the regional OL BC. No detailed activities have been developed.

**DOCUMENTATION:** OL Chief Examiner Signature and Certification Card OJT-OLE-6

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## OL Chief Examiner On-the-Job Activity

**TOPIC:** (OJT-OLE-7) Lead an Initial Examination Team (under instruction)

**PURPOSE:** The purpose of this activity is to familiarize you with the procedures for coordinating and leading an initial operator licensing examination assignment in accordance with NUREG-1021.

**COMPETENCY AREA:** INSPECTION  
ASSESSMENT AND ENFORCEMENT

**LEVEL OF EFFORT:** 200 hours

**REFERENCES:** NUREG-1021

**EVALUATION CRITERIA:** Complete the activities outlined in this guide and meet with the regional OL BC to discuss any questions you may have. Upon completion of the tasks in this guide, you should be able to:

1. Coordinate all the administrative activities involved in preparing for an initial examination assignment.
2. Coordinate all on-site activities with the examination team members, the resident inspectors, and the facility contact.
3. Coordinate all the administrative activities associated with documenting and issuing the examination results.

**TASKS:**

1. In accordance with Sections C.2 and C.3 of ES-201 and under the direction of a certified Chief Examiner, coordinate all administrative activities associated with preparing for an initial examination assignment. These activities should include completing the 120-day phone call, preparing the official examination confirmation letter to the facility licensee, coordinating review and approval of the examinations and tests, reviewing the license applications, resolving any waiver requests, preparing the assignment sheet, preparing the operating test administration schedule, and coordinating the travel arrangements.
2. In accordance with ES-302 and 402 and under the direction of a certified Chief Examiner, oversee all on-site activities associated with the administration of the written examinations and operating tests. This should include coordinating all

3. interactions between the examination team members, the resident inspectors, and the facility contact, such as making arrangements for reviewing and validating the examination, scheduling the entrance and exit meetings, ensuring that examination security is maintained, implementing the operating test schedule, ensuring that the written examination is properly administered, and keeping the regional OL BC informed of any problems.
4. In accordance with ES-303, 403, and 501, and under the direction of a certified Chief Examiner, coordinate all the administrative activities associated with documenting and issuing the examination results. This should include resolving the facility comments, grading and reviewing the written exams and operating tests, preparing the license, denial, and notification letters, preparing the examination report, and ensuring that the required examination files are generated.

**DOCUMENTATION:** OL Chief Examiner Signature and Certification Card OJT-OLE-7

## OL Examiner Signature and Certification Card

Employee's Name: _____	Employee Initials/ Completion Date	OL Branch Chief's Signature/Date
<b>A. Training Courses</b>		
Power Plant Engineering Directed Self-Study (E-110S) (As determined necessary by the regional OL BC.)		
(L) Reactor Technology Full Series (Basic, Advanced, and Simulator) for: <ul style="list-style-type: none"> <li>• Westinghouse</li> <li>• General Electric</li> <li>• Combustion Engineering</li> <li>• Babcock and Wilcox</li> </ul>	_____ _____ _____ _____	_____ _____ _____ _____
Examination Techniques Course (G-107) <ul style="list-style-type: none"> <li>• Written</li> <li>• (L) Operating</li> </ul>	_____ _____	_____ _____
<b>B. Individual Study Activity</b>		
ISA-OLE-1 - (L) Navigating the NRC's OL Web Pages		
ISA-OLE-2 - (L) History and Organization of the Operator Licensing Program		
ISA-OLE-3 - License Eligibility Requirements and Guidelines		
ISA-OLE-4 - (L) Initial Operator Licensing Process		
ISA-OLE-5 - (L) Overview of Generic Examination Concepts		
ISA-OLE-6 - Generic Fundamentals Examination (GFE) Program		
ISA-OLE-7 - Operator Licensing Written Examinations		
ISA-OLE-8 - (L) Operator Licensing Operating Tests		
ISA-OLE-9 - (L) Technical Specifications (Parallels ISA-OPS-2)		
ISA-OLE-10 - (L) Operability (Parallels ISA-OPS-3)		
ISA-OLE-11 - (L) Shutdown Operations (Parallels OJT-OPS-2)		
ISA-OLE-12 - (L) Operator Licensing Appeals and Hearings		
ISA-OLE-13 - Systematic Approach to Training (SAT)		
ISA-OLE-14 - Licensed Operator Requalification and Other License Conditions		
ISA-OLE-15 - (L) Power Plant Simulators		
<b>C. On-the-Job Training Activity</b>		
OJT-OLE-1 - (L) a. Observe Initial Licensing Examination		
(L) b. Observe Initial Licensing Examination		
OJT-OLE-2 - (L) Conduct of Operations (Parallels OJT-OPS-2)		

OJT-OLE-3 - (L) Prepare, Administer, & Grade an Operating Test		
OJT-OLE-4 - Prepare, Administer, & Grade a Written Examination		
OJT-OLE-5 - Requalification Inspection (Parallels App. A, OJT-4)		
<b>NOTE:</b> For ISA-9, 10, and 11 and OJT-2 and 5, you may document completion of equivalent activities on both Signature Cards. Treating ISA-OLE-11 as an OJT activity would eliminate the need to later repeat the activity to certify as a Reactor Operations Inspector.		

## OL Examiner Certification

  

\_\_\_\_\_

Has successfully completed all of the requirements  
to become an

## Operator Licensing Examiner

Limited                       Full

  

OL Branch Chief Signature: _____	Date: _____
Director, DRS, Signature: _____	Date: _____
RA Signature: _____	Date: _____

# OL Chief Examiner Signature and Certification Card

Employee's Name: _____	Employee Initials/ Completion Date	OL Branch Chief's Signature/Date
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<b>C. Additional, Chief Examiner OJT Activities</b>		
OJT-OLE-7 - a. Participate on an Exam Team		
b. Participate on an Exam Team		
OJT-OLE-8 - Lead an Initial Examination Team (under instruction)		

**OL Chief Examiner Certification**

\_\_\_\_\_

Has successfully completed all of the requirements  
to become an

**Operator Licensing Chief Examiner**

OL Branch Chief Signature: _____	Date: _____
Director, DRS, Signature: _____	Date: _____
RA Signature: _____	Date: _____

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**Form 1: OL Examiner Technical Proficiency Level  
Equivalency Justification**

Employee's Name: \_\_\_\_\_

*Identify equivalent training and experience for which the examiner is to be given credit.*

**A. Training Courses**

Power Plant Engineering Directed Self-Study (E-110S)

(L) Reactor Technology Full Series (Basic, Advanced, and/or Simulator)

**B. Individual Study Activity**

ISA-OLE-9 - (L) Technical Specifications

ISA-OLE-10 - (L) Operability

ISA-OLE-11 - (L) Shutdown Operations

ISA-OLE-13 - Systems Approach to Training (SAT)

ISA-OLE-15 - (L) Power Plant Simulators

**C. On-the-Job Training Activity**

OJT-OLE-2 - (L) Conduct of Operations

OJT-OLE-5 - Requalification Inspection

Supervisor's Recommendation: Signature / Date \_\_\_\_\_

Division Director's Approval: Signature / Date \_\_\_\_\_

Copies to: Examiner  
Supervisor  
HR Office