

NRC INSPECTION MANUAL

IRGB

INSPECTION MANUAL CHAPTER 1245, APPENDIX D1

MAINTAINING QUALIFICATIONS

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Introduction

This appendix consolidates post-qualification and refresher training requirements needed to maintain full inspector qualification for each inspector type. Unless otherwise noted in this appendix, this training should not be taken until an individual has completed inspector qualification and obtained supervisor's approval.

Unless specifically stated in this appendix, new post-qualification training requirements are not applicable to an individual who is qualified before the effective date of the revision to Inspection Manual Chapter (IMC) 1245, "Qualification Program for New and Operating Reactor Programs," adding the new requirement. However, previously qualified inspectors should consider expanding their technical knowledge by completing these and other courses listed in Appendix D based on previous work experience and planned work activities in specific technical areas. The requirements to maintain full qualification for each inspector type follow.

Refresher Training

All inspectors are required to complete refresher training to maintain the overall level of inspector performance.

1. *Qualified inspectors are expected to complete annual refresher training on the Reactor Oversight Process (ROP). The purpose of this refresher training is to improve and maintain consistent implementation of the ROP, address areas of identified deficiencies, and maintain overall level of ROP performance. [C-1]*

The process for accomplishing this training will be as follows:

- a. During the spring of each year, DIRS will solicit input for the development of that year's ROP refresher training. Inspectors should use the Feedback Process to submit suggestions.
 - b. The IMC 1245 Management Steering Group (MSG), consisting of a Division Director/Deputy Director from each region, will determine (1) the topics for the refresher training, (2) the method of training (read, read and sign, counterpart session, or other), and (3) the timing of the training.
 - c. The responsible technical branch in DIRS will have the lead to develop the training based on the MSG's selection of ROP refresher topics.
 - d. The ROP refresher training will be provided during the fall. Regardless of the method of training selected by the IMC 1245 MSG, training material will be made available to all inspectors.
2. Qualified inspectors are expected to complete all required refresher training for their specific inspector classification within the established requalification cycle. Each individual re-qualification cycle will be calculated based on the month of achieving full inspector qualification or, if that is not known, the month in which the current cycle was begun. The requalification cycle will be a full 24- or 36-month period as indicated in the specific technical proficiency qualification journal. Inspectors may complete the required training at any time during that period, up until the end of the calendar year in which the training is required. For example, if the initial qualification/refresher was completed in 2010, the refresher training needs to be completed by the end of 2013 and the next refresher by the end of 2016. In some cases, there may be more than 3

years between subsequent refresher courses, but normal supervisory oversight and the existing requirement for supervisors to observe inspectors in the field would identify any instances when immediate refresher training may be needed. Approval to extend an inspector's refresher training beyond the established calendar year due date must be approved as a deviation in accordance with the guidance below. Refresher training requirements for the current requalification cycle are considered complete if the inspector completes training courses for another reactor technology.

3. A fully qualified inspector, who does not maintain qualification due to reassignment (e.g., an inspector stops taking refresher training after moving to headquarters), may participate as a member of a team inspection under the supervision of the team leader. However, this inspector must complete additional training before conducting independent inspection. Specifically, the inspector must complete the refresher training stipulated for the applicable inspector type and any additional training identified by the inspector's supervisor or division director.
4. The periodic refresher training requirements were established to maintain inspector's knowledge and proficiency. If an inspector does not complete all refresher training requirements, the supervisor must evaluate the inspector's proficiency to conduct independent inspections. Any inspector deemed proficient, remains qualified to conduct independent inspections while the supervisor seeks a deviation. Any inspector who needs additional training must stop conducting independent inspections until the inspector receives an approved deviation and the supervisor is satisfied that remedial training has been effective.
5. Qualified staff are expected to complete other refresher training as determined by the applicable program office. This training will address areas where overall program implementation has been identified as declining.

Deviations from Post Qualification and Refresher Training Requirements

Deviations are needed to extend post qualification and refresher training requirements past the due date. Therefore, these deviations must identify the reasons why the required training cannot be completed on schedule. If the due date is inadvertently missed, the individual's supervisor will prepare a deviation request that includes the bases for concluding that the individual has maintained inspector proficiency and any needed compensatory measures.

A regional division director can authorize deviations to extend the due date by up to six months without program office approval. Only the program office can authorize deviations that extend a due date beyond six months from the requirements listed in IMC 1245.

Deviation requests that require program office approval can be submitted by the immediate supervisor of the qualifying individual to the Chief, **ROP Support and Generic Communication Branch**, who will forward the request to the responsible technical branch for review. Requests can be made via e-mail or memorandum.

Post-qualification and Refresher Training Requirements

Appendix C-1, Reactor Operations Inspector

1. **Post-qualification requirements: For inspectors fully qualified after the effective date of these courses, attendance at these courses is a post-qualification requirement to be completed prior to the end of the third calendar year after achieving full qualification:**
 - Root Cause Report Evaluation (G-204) (effective date January 10, 2008)
 - Probabilistic Risk Assessment Technology and Regulatory Perspectives (P-111) (effective date September 2, 2005)

For example, if full qualification was completed in May 2010, the post qualification training is required to be completed before the end of 2013.

- *vendor-specific training course*
Operations inspectors must complete vendor-specific training for their assigned site. If reassigned to a new site after initial qualification, the inspector must complete the vendor-specific training for the new assignment. This training should be completed as soon as feasible after reassignment and must be completed within 24 months of assignment to a new site. [C-2]
2. Refresher training requirements:
 - Technology review (i.e., R-327C, R-904 B/P, R-905P, or R-906P) and simulator refresher (i.e., R-704 B/P, R-705P, or R-706P) are both required every 3 years.
 - If you are qualified to inspect more than one reactor type, you must complete either the boiling-water reactor (BWR) or pressurized-water reactor (PWR) refresher training every 3 years. Inspectors should alternate between PWR and BWR technologies.

Appendix C-2, Reactor Engineering Inspector

1. **Post-qualification requirements: For inspectors fully qualified after the effective date of these courses, attendance at these courses is a post-qualification requirement to be completed prior to the end of the third calendar year after achieving full qualification:**
 - Root Cause Report Evaluation (G-204) (effective date January 10, 2008)
 - Probabilistic Risk Assessment Technology and Regulatory Perspectives (P-111) (effective date September 2, 2005)

For example, if full qualification was completed in May 2010, the post qualification training is required to be completed before the end of 2013.

2. Refresher training requirements:
 - Technology review (i.e., R-327C, R-904 B/P, R-905P, or R-906P) or simulator refresher (i.e., R-704 B/P, R-705P, or R-706P) is required every 3 years.
 - If you completed your qualification before the U.S. Nuclear Regulatory Commission (NRC) added the requirement for a full series, you should alternate between R-704P (or R-904P) and R-704B (or R-904B). You should coordinate your selection with your supervisor.

Appendix C-3, Health Physics Inspector

1. **Post-qualification requirements: For inspectors fully qualified after the effective date of this course, attendance at this course is a post-qualification requirement to be completed prior to the end of the third calendar year after achieving full qualification:**
 - Whole Body Counting/Internal Dosimetry (H-312) (effective date September 14, 1999)

For example, if full qualification was completed in May 2010, the post qualification training is required to be completed before the end of 2013.
2. Refresher training requirements: These requirements are to be completed every 3 years:
 - Health Physics Topical Review Course (H-401). If the inspector cannot attend the required course, or if the offered required course is not appropriate for the inspector's knowledge level, an alternative equivalent (i.e., at least 36 hours of instruction in a topic, or topics, relating to the inspectors duties) course may be substituted when approved by the inspector's Branch Chief. Appropriate substitutes may include participation in national or international health physics conferences, lectures, and workshops, or other commercial- or Government-sponsored technical training courses related to health physics.

Appendix C-4, Reactor Security Inspector

1. Post-qualification requirements: None
2. Refresher training requirements: If the inspector cannot attend the required course listed below because of circumstances beyond his/her control, an alternative acceptable course may be substituted with the documented permission of the inspector's Branch Chief and the Branch Chief of the Office of Nuclear Security and Incident Response (NSIR) Nuclear Security Oversight Branch:
 - Security Counterpart & Technology Refresher (S-402) every 3 years.
 - Attend one external or internal security training course or supervisor-approved alternative training course every 3 years to maintain an advanced technical knowledge in security.

Appendix C-5, Research and Test Reactor Inspector

1. Post-qualification requirements: None.
2. Refresher training requirements: All research and test reactor (RTR) inspectors are required to participate in ongoing post-qualification training to maintain and enhance their knowledge and skills. This training should include elements of both continuing and refresher training as defined in IMC 1245-03, "Definitions." Each inspector shall annually review with his/her supervisor post-qualification accomplishments in the past year and goals for the coming year to ensure that the intent of IMC 1245-06, "Post-Qualification Training," has been met. As a minimum, each inspector shall attend 1 day of continuing training in each 6-month interval.

Specific forms of post-qualification training may include the following:

- attending classes beyond the core requirements (e.g., see course catalog)
- attending courses that have been taken previously or refresher courses on the subject matter
- assisting in the presentation of course R-106, Research and Test Reactor Technology
- reading relevant RTR license amendments, incident reports, new regulatory requirements, etc.
- participating in information exchange forums with counterparts (e.g., RTR inspectors, RTR PMs, RTR operator license examiners, other NRC groups, and TRTR)
- performing a joint inspection with another RTR inspector with an emphasis on exchanging good practices and techniques.

Appendix C-6, Emergency Preparedness Inspector

1. Post-qualification requirements: Attendance at courses will be determined by your supervisor and is dependent on your previous work experience and planned inspection activities (e.g., lead emergency preparedness inspector, RAC member).
 - Radiological Emergency Response and Operations (H-303)
 - Radiological Emergency Planning (H-306)

2. Refresher training requirements: None.

Appendix C-7, Fire Protection Inspector

1. Post-qualification requirements: None
2. Refresher training requirements: All fire protection inspectors are required to participate

in ongoing post-qualification training to maintain and enhance their knowledge and skills. This training should include elements of both continuing and refresher training as defined in IMC 1245-03. Each inspector shall annually review with his/her supervisor post-qualification accomplishments in the past year and goals for the coming year to ensure that the intent of IMC 1245-06 has been met. As a minimum, each inspector shall attend 1 day of continuing training in each 6-month interval.

Suggestions for post-qualification training may include but are not limited to the following:

- attending classes beyond the core requirements (e.g., see course catalog or Appendix D-3, “Fire Protection Advanced-Level Training,” to IMC 1245)
- attending courses that have been taken previously or refresher courses on the subject matter
- assisting in the presentation of fire protection training
- participating in information exchange forums with counterparts (e.g., regional fire protection workshops)

Appendix C-8, Vendor Inspector

1. Post-qualification requirements - All vendor inspectors are required to participate in ongoing post-qualification training to maintain and enhance their knowledge and skills. This training should include elements of both continuing and refresher training as defined in IMC 1245-03. Each inspector shall annually review with their supervisor post-qualification accomplishments in the past year and goals for the coming year to assure that the intent of IMC 1245-06, “Post-Qualification Training,” has been met. As a minimum, each inspector shall attend one day of post-qualification training in each six month interval.
2. Refresher training requirements – None

Appendix C-9, Senior Reactor Analyst

1. Post-qualification requirements: For analysts fully qualified after the effective date of these courses, attendance at these courses is a post-qualification requirement to be completed prior to the end of the third calendar year after achieving full qualification:
 - Accident Consequence Analysis (P-301) (effective date November 24, 2015)
 - Bayesian Inference in Risk Assessment Advanced Topics (P-502) (effective date November 24, 2015)

For example, if full qualification was completed in May 2010, the post qualification training is required to be completed before the end of 2013.
2. Refresher training requirements: Either the BWR or PWR refresher training shall be completed every three years. It is recommended that inspector certification for SRAs be

alternated between PWR and BWR technologies. When taking the refresher courses, it is also recommended that the simulator and technology review courses be scheduled as close together as possible. Other training needs should be evaluated based on the needs of the individual. For example, although a qualified SRA had previously received training on SAPHIRE, it may be appropriate to retake the course, assuming the SAPHIRE code had changed sufficiently to warrant the need for additional training. In addition, qualified SRAs should seek training opportunities that may be offered via the NRC External Training Request Form (SF-182).

SRAs are encouraged to attend a professional meeting at least every three years. The meetings may be either NRC or industry sponsored and should address PRA applications or specific aspects of PRA (e.g., human reliability assessment, common cause failure analysis, fault tree/event tree modeling, risk communications, etc.) that are of interest to the SRA and important for continued development in the SRA's understanding of risk technology.

Appendix C-10, Operator Licensing Examiner

1. Post-qualification requirements: None.
2. Refresher training requirements: To maintain their technical proficiency, operator licensing (OL) examiners must complete the technical refresher and simulator and emergency operating procedure refresher courses every 3 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, including AP1000, should alternate their attendance among the vendors for which they are certified during successive refresher training periods. However, the regional OL Branch Chief 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 3 years. The options include (1) attending the refresher training class presented by the NRR OL program office in conjunction with the national operator licensing examiners' training conference, (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 course (G-107).

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 programs presented by the NRR OL program office.

The regional OL Branch Chiefs shall oversee their examiners' field activities in accordance with IMC 0102, "Oversight and Objectivity of Inspectors and Examiners at Reactor Facilities."

Every OL examiner shall administer at least one complete operating test every calendar year in order to maintain proficiency. Any examiner who fails to maintain proficiency

must be assessed (following a process similar to the certification test described in the General Requirements section of IMC 1245, Appendix C-10, "Operator Licensing (OL) Examiner Technical Proficiency Training and Qualification Journal") by a certified chief examiner (preferably the regional OL Branch Chief). Both the chief examiner and the examiner being audited should sign Form ES-303-1 as the "Examiner of Record." The chief examiner should verify 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 24 months shall also complete some form of examination techniques refresher training, as discussed above, in order to reactivate his/her OL examiner certification.

Examiners assigned to the OL program office and certified regional OL Branch Chiefs 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 teaching the operating test portion of the Examination Techniques course (G-107). The Chief of the NRR Operator Licensing and Training Branch will determine the need for proficiency testing and observations on a case-by-case basis.

Appendix C-11, Security Risk Analyst

1. Post-qualification requirements: None.
2. Refresher training requirements: If the analyst cannot attend one or more of the required courses listed below because of circumstances beyond his/her control, an alternative acceptable course may be substituted with the documented permission of the inspector's Branch Chief and the Branch Chief of the NSIR Nuclear Security Oversight Branch.
 - Security Counterpart & Technology Refresher (S-402) every 3 years
 - Once every 3 years, both the technology review (R-904B or R-904P) refresher and simulator/emergency operating procedures (R-704B or R-704P) refresher are required for at least one reactor type in which an inspector is qualified. If the individual is qualified on more than one reactor type, the inspector should alternate between PWR and BWR technologies.

Appendix C-12, Safety Culture Assessor

1. Post-qualification requirements: None.
2. Refresher training requirements: Complete the following training every 3 years:
 - focus group refresher training or participation in an inspection such as one under IP 95003, preferably one using focus groups

Appendix C-15, Construction Inspector

1. Post-qualification requirements: For inspectors fully qualified after the effective date of these courses, Attendance at one of these courses is a post-qualification requirement to be completed prior to the end of the third calendar year after achieving full qualification. Only one course is required.
 - Civil/Structural Functional Area: Civil/ Structural Codes and Inspection Course (effective date December 7, 2009)
 - Mechanical Functional Area: Mechanical Codes and Inspection Course (effective date December 7, 2009)
 - Electrical Functional Area: Electrical Codes and Inspection Course (Including Digital I&C and fiber optics) (effective date December 7, 2009)

For example, if full qualification was completed in May 2010, the post qualification training is required to be completed before the end of 2013.

2. Refresher training requirements: All construction inspectors are required to participate in refresher training to maintain and enhance their knowledge and skills. This training should include elements of refresher training as defined in IMC 1245-03. Each inspector shall annually review with their supervisor refresher training accomplishments in the past year and goals for the coming year to assure that the intent of IMC 1245-06, "Post-Qualification Training," has been met. Training included in periodic construction inspector counterpart meetings may be used to fulfil this requirement.

END

Revision History Sheet for IMC 1245, Appendix D-1
Attachment 1

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession Number (Pre-Decisional, Non-Public)
C-1 Reference: Davis-Besse Lessons Learned Task Force, Recommendation 3.3.4.6	6/29/04	Adds a requirement for inspectors to take annual refresher training on ROP.	None	N/A
C-2 Reference: OIG-05-A-06 Recommendation 7 (ML052520204)	9/02/05	Adds a requirement that operations inspectors take the appropriate vendor-specific training within 2 years of assignment to a new reactor type.	None	N/A
N/A	07/08/09 CN-09 017	Updates inspector titles, adds two new training standards (C-7 and C-11), and consolidates post-qualification and refresher training requirements needed to maintain full inspector qualification for each inspector	None	N/A
N/A	ML11073A004 12/29/11 CN-11-044	This revision clarifies refresher training requirements, moves refresher training guidance from IMC 1245 into Appendix D-1, broadens the scope of deviations to include late completion of post-qualification training, adds post-qualification training for vendor inspectors, and authorizes the supervisor (with concurrent IOLB/NRR approval) to approve alternate refresher training for Health Physics inspectors.	None	ML11321A232

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession Number (Pre-Decisional, Non-Public)
N/A	ML12243A502 12/19/12 CN-12-029	This revision adds requalification requirements for inspectors who have not maintained qualification due to reassignment, broadens the scope of deviations to include post-qualification requirements, and authorizes a regional division director to approve deviations that extend deadlines by up to six months without program office approval.	None	N/A
N/A	ML13269A122 10/23/13 CN13-026	This revision modifies refresher requirements for security inspectors that are qualified or qualify under Appendix C-4 and clarifies language and refresher requirements for Security Risk Analysts that are qualified or qualify under Appendix C-11	None	ML13269A124
N/A	ML15177A324 11/24/15 CN 15-026	This revision updates IMC format and the location of deviation guidance for refresher training. This revision also revises the following qualification standards, modifies the process to approve alternative refresher training for health physics inspectors (C-3), adds two courses (P-301 and P-502) to post qualification for SRAs (C-9), and adds AP1000 as a reactor technology for examiner's (C-10) refresher training. To close the feedback form, this Revision History summary documents that HRTD is adding training topics (recommended by the Fort Calhoun lessons learned team) to the Technology Review Courses (R-904, R-905, and R-906).	None	ML15195A195Closed FBF: 1245D1-2001 ML15207A052
N/A	ML17072A353 08/24/17 CN 17-015	This revision adds requirements for Appendix C-15, Construction Inspector	None	ML17089A365

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession Number (Pre-Decisional, Non-Public)
N/A	ML18047A201 06/07/18 CN 18-014	This revision gives additional time and flexibility for C1, C2, C3, C9, and C15 qualified individuals to complete their post-qualification requirements, eliminates the need for SRA's to take P-501 as refresher training, and updates the contact for deviations from the Operator Licensing and Training Branch to the ROP Support and Generic Communications Branch.		ML18065A659