

NRC INSPECTION MANUAL

NMSS/DFM

INSPECTION MANUAL CHAPTER 1247

QUALIFICATION PROGRAM FOR FUEL FACILITY INSPECTORS IN THE NUCLEAR MATERIAL SAFETY AND SAFEGUARDS PROGRAM AREA

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1247-01 PURPOSE

- 01.01 To define the initial training and qualification requirements for U.S. Nuclear Regulatory Commission (NRC) staff performing inspections of fuel facilities, in the Nuclear Material Safety and Safeguards (NMSS) program area.
- 01.02 To define training and qualification requirements for NRC staff who have previously qualified as inspectors using Inspection Manual Chapter (IMC) 1245 or IMC 1246 and who will be performing fuel facility inspections in the NMSS program area.
- 01.03 To establish the requirements for completing refresher and continuing training for updating and maintaining qualification.
- 01.04 To establish the requirement and define the process for evaluating the effectiveness of the inspector training and qualification process.

1247-02 OBJECTIVES

- 02.01 To define the qualification program for fuel facility operations, health physics, emergency preparedness, physical security, material control and accounting, criticality safety, and information security.
- 02.02 To ensure that the NRC staff has the necessary knowledge and skill to successfully implement the NMSS fuel facility inspection program.
- 02.03 To ensure that the inspector training and qualification program remains effective in preparing inspectors to implement the inspection program.

1247-03 DEFINITIONS

03.01 Advanced Training and Qualification

Technical qualification and training which increases the depth of an individual's knowledge in a specific area but is not required to be completed prior to performing independent inspection. Advanced training and qualification should be completed after completing Full Inspector Qualification; however, it can be completed concurrently with other Full Inspector Qualification.

03.02 Attitude

A manner of performing tasks that demonstrates an understanding of and an appreciation for the NRC's organizational values of integrity, excellence, service, respect, cooperation, commitment, and openness.

03.03 Basic Inspector Certification

A certification made by the individual's supervisor which signifies that the individual has successfully completed all Basic-Level Inspector Training and Qualification activities. Achieving Basic Inspector Certification allows an individual to perform limited scope inspection activities. Inspection activities will be specifically assigned and are to be performed with an appropriate degree of detailed supervision.

03.04 Basic-Level Training and Qualification

The activities designed to provide newly hired staff with an awareness of basic information related to the Agency, the role of the inspector, and the technology being regulated, and to provide a context for the development of proficiency as an inspector. Successful completion of Basic-Level Training leads to Basic Inspector Certification.

03.05 Competency

The group of related knowledge, skills and abilities describing the characteristics needed to perform successfully as an inspector.

03.06 Continuing Training

Activities designed to build on **the information** a trainee learned in initial training by:

- a. providing more in-depth knowledge in areas that are covered in initial training
- b. addressing changes to the programs and processes that affect how NRC staff conducts job related activities
- c. providing lessons learned from recent industry and agency activities

03.07 Equivalency Examination

An examination administered through the training organization or its contractors, in lieu of specific course attendance.

03.08 Equivalent Experience (Previous Experience)

Credit for course requirements, **Individual Study Activity (ISA)** training, or On-the-Job training (OJT) may be granted based on equivalent experience or training as documented on the appropriate equivalency justification form.

03.09 Final Qualification Activity

An inspector must be recommended by the inspector qualification board and certified by the Regional Administrator or Division Director, if delegated, to be completely qualified.

03.10 Full Inspector Qualification

A certification by the Regional Administrator or Office Director, **or designee**, the basis of which is a recommendation by the Inspector Qualification Board. Full Inspector Qualification indicates that the individual has completed **Appendix A, "Basic-Level Training and Certification Journal Fuel Facility Inspector," Appendix B, "General Proficiency-Level Training and Qualification Journal," and one of the Technical Proficiency-Level Training and Qualification Journals in Appendix C.** Achieving Full Inspector Qualification allows an individual to be assigned the full scope of inspection-related activities to be independently performed with routine oversight and supervision.

03.11 General Proficiency-Level Training and Qualification

The activities designed to develop the technical knowledge and interpersonal skills of inspectors already qualified at the Basic-Level. Successful completion of the General Proficiency-Level Training and Qualification activities leads to Full Inspector Qualification.

03.12 Individual Study Activities (ISA)

A training method that uses personal study activities involving review of ISA resource information and staff interviews to develop the required job-related knowledge and skills. The activity does not need to be completed individually.

03.13 Initial Training and Qualification

The complete set of training activities (individual-study, classroom, and on-the-job training) that covers the knowledge, skills, and abilities needed to successfully achieve Full Inspector Qualification.

03.14 Inspector

An individual who conducts inspection activities including individual or team inspections, audits, or reviews.

03.15 Inspector Qualification Board

The inspector qualification board is used to evaluate how well an individual can integrate and apply inspector competencies to field situations. Upon an individual's completion of all requirements identified in the qualification journals, an inspector qualification board will confirm that the individual has the necessary knowledge, skills, and attitudes to independently conduct the prescribed NRC inspections.

03.16 Knowledge

The facts, concepts, ideas, and relationships that support successful on-the-job performance. Normally referenced together with skills and attitudes and abbreviated as KSAs.

03.17 On-the-Job Training (OJT)

A training method that uses structured hands-on activities to develop the required job-related knowledge and skills.

03.18 Post-Qualification Training

Training required after qualification to supplement or enhance the professional development of NRC staff, typically completed within 3 years of full inspector qualification. (See also Refresher Training and Continuing Training.)

03.19 Qualification Journal

The document listing the requirements for achieving qualification and containing the documentation of successful completion of the individual-study requirements, formal classroom instruction, and on-the-job training.

03.20 Refresher Training

Required activities designed to maintain the **proficiency** of **inspectors** by:

- a. Re-addressing some knowledge, skills and abilities (KSAs) presented in initial training, particularly those that are related to important tasks that are difficult and infrequently performed.
- b. Providing training in areas where individual or program performance has been identified as needing improvement.
- c. **Providing training in inspector specific program areas (examples include criticality safety counterpart sessions or conferences).**

03.21 Specialized Training and Qualification

Technical Proficiency or Advanced qualification and training which is required to be completed prior to performing independent inspection in a specific discipline or position. Examples include physical security (Appendix C4), material control and accountability (Appendix C5), criticality safety (Appendix C6), and information security (Appendix D1).

03.22 Technical Proficiency-Level Training and Qualification

The activities designed to develop the technical knowledge and other required skills of inspectors already qualified at the basic level and general proficiency-level. Successful completion of the basic-level, general proficiency-level and one technical proficiency-level training and qualification activities leads to Full Inspector Qualification.

1247-04 RESPONSIBILITIES AND AUTHORITIES

04.01 Associate Director for Human Resources, **Training and Development (ADHRTD), Office of the Chief Human Capital Officer (OCHCO)**. Administers and implements the formal training programs for NMSS as identified in this IMC. Assesses training course effectiveness and identifies areas where the course content needs to be revised.

04.02 Director, Office of Nuclear Materials Safety and Safeguards (or designee). Ensures that the NMSS staff achieves and maintains qualifications in accordance with the guidelines in this IMC. Establishes the training qualification requirements for staff that perform inspection activities for which NMSS is responsible. Certifies the NMSS headquarters staff who qualify under this IMC. Approves **interim qualification and deviations**.

04.03 Director, Office of Nuclear Security and Incident Response (NSIR) (or designee). Ensures that the NSIR staff achieves and maintains qualifications in accordance with the guidelines in this IMC. Establishes the training qualification requirements contained in Appendix C3, **"Fuel Facility Emergency Preparedness Inspector Technical Proficiency Training and Qualification Journal,"** Appendix C4, **"Fuel Facility Security Inspector**

Technical Proficiency Qualification Journal,” and Appendix D1, “Information Security Inspector Specialized Qualification Program Training and Qualification Journal.” Certifies the NSIR headquarters staff who qualify under this IMC. Approves interim qualification and deviations.

- 04.04 Regional Administrator. Ensures that the regional staff achieves and maintains qualifications in accordance with the guidelines in this IMC. Develops procedures for implementing this IMC for regional staff. Certifies the regional staff who qualify under this IMC. Approves interim qualification and deviations.
- 04.05 Directors, NMSS, NSIR, and Regional Divisions. Approves the use of and accepts the justification for using an alternate method for meeting qualification program requirements (equivalencies), and deviations. Assists the Office of the Chief Human Capital Officer in developing, monitoring, and reviewing formal training courses for the qualification programs in this IMC. Approves interim qualification and deviations.
- 04.06 Chiefs, NMSS and NSIR Program Branches. Develops and maintains, in conjunction with the Associate Director for Human Resources Training and Development (ADHRTD) of OCHCO, the regions, and headquarters staff, the Qualification Journals listed in the appendices of this IMC. Evaluates proposed changes to the NMSS and NSIR programs for impacts on training. Periodically reviews and assesses the effectiveness of staff in implementing NMSS and NSIR programs to identify refresher and continuing training topics. Assesses the inspector training and qualification program effectiveness and identifies areas where the program needs to be revised.
- 04.07 Immediate Supervisor of Qualifying Individuals. Assesses the ability of each qualifying individual assigned to them and provides appropriate levels of detailed supervision based on the individual's level of proficiency. As needed, assigns fully-qualified individuals to work with qualifying individuals during the qualification process. Identifies the qualifying individual's previous experience and training for which qualification credit may be given. Requests equivalencies, deviations, and interim qualifications as appropriate. Ensures that qualifying individuals have successfully completed the basic level requirements and subsequently certifies that the individual is qualified to the Basic Level. Ensures that an individual is ready to independently perform job responsibilities at the Proficiency Level and recommends them once prepared for review by the Inspector Qualification Board. Monitors qualifying individuals for completion of all qualification requirements within the assigned timeframe (typically 24 months for newly qualifying inspectors). Evaluates inspectors, who may be assigned inspection activities that are outside of their classification, against the applicable qualification standard, to verify the individual has the requisite knowledge and skills, and abilities to successfully complete the inspection activity.
- 04.08 Qualifying Individuals. Works towards completion of all qualification requirements within the assigned timeframe (typically 24 months for newly qualifying inspectors). Identifies and proposes to their immediate supervisor previous experience and training for which qualification credit may be given.

1247-05 REQUIREMENTS

Staff implementing NMSS and NSIR programs must understand the facilities, equipment, processes, and activities of those programs, as well as the criteria, techniques, and mechanics of implementing the programs. The qualification process is intended to provide staff with sufficient information to **proficiently conduct inspections. The qualification program has been sequenced to optimize learning by ensuring that individuals have completed basic courses before beginning more complex ones.**

- a. Attachment 1, "General Overview of the Fuel Facility Inspector Training and Qualification Program," is a complete description of the program for qualifying inspectors.
- b. Attachment 2, "Inspector Competencies," lists the competencies which serve as the basis for the inspector qualification requirements.
- c. Attachment 3, "Fuel Facility Inspector Qualification Requirements for Inspectors Previously Qualified Under IMC 1245 or IMC 1246," provides the training requirements and necessary documentation that will constitute completion of the Fuel Facility Inspector qualification for those inspectors previously qualified under IMC 1245 **or IMC 1246.** Equivalent experience guidance above applies.

05.01 Training and Qualification Requirements

Fuel facility inspector training and qualification requirements are described in **the appendices** of this IMC. Staff assigned to perform inspections in NMSS program areas must successfully complete all training activities and qualification requirements listed in Appendix A and Appendix B, as well as at least one **technical proficiency level journal** listed in Appendix C. **Appendix D training may also need to be successfully completed to perform inspections in specific NMSS program areas (see Specialized Training and Qualification).**

A new qualifying individual should plan to complete all requirements of the applicable qualification program within 24 months. Nuclear Regulator Apprenticeship Network graduates should work with their permanent supervisor to determine what previous qualification work can be credited for their IMC 1247 qualifications.

New qualifying individuals are expected to complete technical proficiency journal Appendix C1. Completion of Appendix C1 forms an important foundation for understanding fuel facility technology and regulation and permits independent inspection using all inspection procedures barring those requiring a specialty qualification. Once Appendix C1 has been completed, other specialty or expertise qualifications may be sought. However, the trainee's Division Director has discretion to deviate from this expectation. An additional qualification board is not required following completion of subsequent technical proficiency journals or if the inspector has completed a prior inspector qualification board, once the immediate supervisor has verified the inspector's competency. Qualified inspectors (fuel, reactors, security, etc.) may qualify to be an Information Security Inspector in accordance with the criteria defined in Appendix D1, "Information Security Inspector Specialized Qualification Program Training and Qualification Journal."

05.02 Alternate Methods for Meeting a Program Requirement (Equivalencies and Cross Qualification)

All staff must successfully meet all the training and qualification program requirements. However, **equivalent** experience may be accepted as evidence that an individual already possesses the required knowledge or skills normally achieved by completing parts of the program.

- a. Previous Experience. The individual's **branch chief** has the authority to accept previous experience and training as an alternate method for meeting the requirements contained in this IMC. Justification for accepting previous experience and training to meet program requirements must be documented and recorded in the individual's training record. Forms for documenting the equivalency justification are in each **technical proficiency** qualification journal.
- b. Appropriate Knowledge Level. The individual's Division Director may request that the individual demonstrate the appropriate level of knowledge or skill by successfully completing an equivalency examination. Requests for equivalency examinations should be made by the individual's supervisor to the **ADHRTD, OCHCO**.
- c. Individuals Qualifying or Qualified in Other Areas Other than those Assigned as Fuel Facility Senior Resident Inspectors (commonly referred to as cross qualification). Individuals who are in the process of qualifying as an inspector under IMC 1245, or IMC 1246 may also qualify as a fuel facility inspector. In such cases, previous equivalent training requirements that are common to the two programs need not be repeated and credit for similar training will be indicated in the fuel facility inspector qualification journal. Individuals who have previously qualified as an inspector under IMC 1245 or **IMC 1246**, may also qualify as a fuel facility inspector. Completion of the **study guides (SGs)** and course requirements identified in the signature sheet shown in Attachment 3 of this IMC, will constitute completion of the fuel facility inspector qualification requirements for those individuals who are already qualified inspectors. Completion of the Attachment 3 requirements will be certified by the appropriate NMSS or NSIR Branch Chief or the Director, Division of **Fuels, Radiological Safety, and Security**. The inspector's immediate supervisor should work with the individuals to identify a plan for completing cross qualification to ensure that the inspector moves beyond basic quals to full qualification in a reasonable time frame.
- d. Independent Inspection. Prior to inspecting independently at a fuel cycle facility, the cross qualifying inspector shall be certified in accordance with IMC 1247. As general guidance, an inspector who is cross qualifying as a fuel facility inspector from another inspection area business line is expected to already possess basic inspection knowledge, skills, and abilities. However, the inspector is anticipated to need to gain proficiency in areas such as fuel cycle specifics and technology and the technical area that the inspector is cross qualifying in (e.g., IMC 1247, Appendices C and D) prior to inspecting independently. The inspector's immediate supervisor should work with them to identify a plan for completing cross qualification in accordance with Attachment 3, to ensure that the inspector moves beyond basic quals to full qualification in a reasonable time frame.
- e. Cross Qualification of Individuals Assigned as Fuel Facility Senior Resident Inspectors. Senior Resident Inspectors (SRIs) are assigned to Category I fuel facilities. Due to the size and uniqueness of the fuel facility resident inspector program, there is no specific

qualification appendix required for newly assigned resident inspectors. However, IMC 1247, Appendix C1, contains the additional SG(s) required for resident inspectors. Newly assigned SRIs who are not IMC 1247 qualified but were previously fully-qualified under other inspector qualification programs, will use the cross-qualification process in accordance with Attachment 3. The new SRI is qualified to perform independent inspections as assigned by the immediate supervisor. The SRI's immediate supervisor should work with them to identify a plan for completing cross qualification in a reasonable time frame (typically not to exceed 18 months). An effective turnover period occurs as described in IMC 2600, Appendix C, "Fuel Cycle Resident Inspection Program."

05.03 Final Qualification Activity

- a. Inspector Qualification Board. The inspector qualification board is used to evaluate how well an individual can integrate and apply inspector competencies to field situations. Upon completion of all requirements identified in the Inspector Qualification Journals, an inspector qualification board will be conducted to confirm the individual has the necessary KSAs to independently conduct the prescribed NRC inspections. The list of KSAs to be assessed by the board is contained in Attachment 2, "Inspector Competencies."
- b. Members. A qualification board will consist of at least three members. Each board will contain a manager at the branch chief level or above. The board chairperson shall be at least at the branch chief level but cannot be the individual's immediate supervisor. At least one board member must be knowledgeable or qualified in the technical proficiency area for which the individual is seeking qualification. Whenever practical, the immediate supervisor of the individual seeking qualification should observe the board. The supervisor should not be a member of the board.
- c. Board Conduct.
 1. The board members and the board chairperson should work together to ensure that the tasks and KSAs in Attachments 2 and 3 will be covered during the board.
 2. Specific questions can be selected from those used in previous qualification boards or new questions can be developed. Each question shall relate to at least one of the KSAs to be verified by the board. Questions should allow and encourage the individual to provide answers that demonstrate knowledge of NRC policy and philosophy as they relate to the licensee and in particular to the implementation of the fuel facility inspection program and inspector self-management.
 3. Technical questions should be limited in number, pertain to the technical area in which qualification is being sought, and should not be the primary focus of the board's assessment. **Technical**-based scenarios and examples can be used to determine how well an individual can translate their technical knowledge into appropriate inspector actions. However, lengthy questioning merely to determine if an individual can recall specific technical facts should not be used. An individual's technical competence in specific disciplines is assessed as specified by the supervisor or designee (individual's mentor or senior staff).

4. The board should typically **take 2** hours to complete its assessment, but the time may vary based on board members and the candidate.
 - (a) Board Recommendations. The board will document the results of their assessment in writing to the Regional Administrator or Office Director each time a board examines an individual.
 - (b) If the board's assessment is favorable, the recommendation will be to grant **full inspector certification**. Any areas where additional review was required (look-up items) must be completed by the individual and verified by an assigned member of the board **or the board's designee** before forwarding the recommendation to the Regional Administrator or Office Director.
 - (c) If the board has identified areas requiring formal remediation, the board will identify those areas in writing **with the recommendation** that the individual appear before a board for reexamination when the remediation activities are complete. The board and the individual's supervisor will agree on a schedule for reexamination.
 - (d) If the board has identified performance deficiencies that could not be successfully addressed with a remediation effort, the board will document the full scope of the deficiencies and recommend that the individual not be remediated or reexamined.
 - (e) The employee will receive a copy of the board's findings and recommendation.
 - (f) Reexamination Board. A reexamination board must include at least one individual from the original board. The board questioning during reexamination will focus **primarily** on the areas identified **for remediation**. The board may explore any area where **remediation was** identified during the conduct of the reexamination.
 - (g) Board Documentation. The Board's recommendations are forwarded to the Regional Administrator or Office Director for **approval via memorandum**. Upon certification, the qualification **memorandum** will be **placed into the Agencywide Documents Access and Management System (ADAMS)** and the **qualification information entered into the Talent Management System (TMS)** by sending a request to trainingsupportresource@nrc.gov. The request to the TMS support group shall include the person's name, qualification achieved, date qualified, and the Accession number of the ADAMS entry. The certification document that was placed into ADAMS and recorded in TMS shall serve as proof of inspector qualification. The inspector may retain their qualification signature and equivalency card(s). The training coordinator for the responsible office should ensure copies of all certificates and certification memoranda are sent to trainingsupportresource@nrc.gov.

05.04 Interim Qualification

Interim qualification may be granted in circumstances such as when some required training courses are not offered, and no equivalent courses are available. An interim qualification might also be granted when proficiency has been completed in some but not all the study guide training related to inspection procedures. A determination must be

made by the qualification board and the trainee's supervisor that the inspector will be able to conduct inspections without an adverse impact to inspection quality. Achieving interim qualification allows an inspector to be assigned to all procedures in which the inspector is proficient including the full scope of inspection-related activities, to be performed independently with routine oversight and supervision. Interim qualification is granted on a case-by-case basis by the Regional Administrator. Full qualification should be sought in an expedited manner following interim qualification. The inspector's immediate supervisor should ensure completion of any remaining qualification items.

05.05 Special Circumstances

Budget **restrictions**, delays in establishing replacement contracts, or unavailability of critical instructors might result in the long-term unavailability of NRC-controlled courses required for formal qualification. In this case, the **ADHRTD, OCHCO**, will communicate this to the cognizant Division Directors. This does not remove the need for the qualifying employee to attend the required course, or a suitable alternative, if one can be found. It is expected that employee schedules will be adjusted as necessary to allow and require the employee to attend the required training when it is made available. Requests for course substitutions or other equivalent training activity shall be submitted by the qualifying individual's immediate supervisor to the cognizant Division Director for approval **as equivalent experience**.

05.06 Deviations

Deviations are needed when proficiency requirements have not been maintained, and the qualified individual seeks to conduct independent inspection. Deviation requests must identify the reasons why proficiency requirements could not be completed on schedule and state why the individual is considered to be appropriately capable to conduct inspections. Deviation requests may be submitted by the immediate supervisor of the qualifying or qualified individual to the appropriate Division Director. Requests can be made via email or memorandum.

The qualification journals listed in this IMC specify the total requirements for an individual to be qualified. Regions and headquarters divisions may not incorporate additional requirements and make them a condition of qualification under this IMC.

05.07 Other Administrative Requirements

a. Formal Training Requirements and Expectations.

1. Written examinations are sometimes administered for formal courses to evaluate the employee's understanding of the material.
2. Individuals who fail examinations will be given the opportunity to review the material that they did not pass through self-study and then be reexamined on that material. If deemed necessary, individuals who fail an entire course may also repeat the course with the approval of the Division Director.
3. In courses where a formal examination is not given, satisfactory course completion is determined by attendance and completion of class activities.

4. In all cases, completion of formal training courses will be documented by the Office of the Chief Human Capital Officer. The qualifying individual is responsible for making sure that the course completion record is noted on the signature cards in the Qualification Journals.

05.08 Technical Experts

- a. Technical experts who have never been qualified as an inspector may be used to support inspection activities, but they must work under the guidance and oversight from a fully qualified inspector and cannot conduct independent inspection.
- b. Inspectors Qualified in Other IMCs. Inspectors who are fully qualified under other IMCs are considered equivalent to Basic-Level qualification under this IMC, granting them the ability to support inspection activities under the guidance and oversight from a fully qualified IMC 1247 inspector.

1247-06 POST-QUALIFICATION TRAINING REQUIREMENTS

An inspector's training does not end upon being certified as a fully qualified inspector. Required refresher training and post-qualification training, and suggestions for continuing training are provided in the technical proficiency qualification journals in Appendix C of this IMC.

06.01 Required Refresher Training

Activities designed to assist in maintaining inspection proficiency by:

- a. readdressing some KSAs presented in initial training, particularly those that are related to important tasks that are complex and infrequently performed
- b. providing training in areas where individual or program performance has been identified as needing improvement
- c. providing training in inspector specific program areas (examples include Communities of Practice sessions, knowledge management trainings, counterpart meetings, or conferences)

06.02 Maintaining Qualification Proficiency

All qualified staff are expected to maintain their qualification proficiency following full inspector qualification. Proficiency is maintained by completion of required qualification journal refresher training. Each individual requalification 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 began. The requalification cycle will be as indicated in the specific technical proficiency qualification journal. Qualified individuals 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 or previous refresher training was completed any time in 2024, a 3-year requalification refresher training requirement needs to be completed by the end of 2027. Approval to extend an inspector's refresher training beyond the established due date must be approved as a deviation in accordance with this IMC.

The base month for determining refresher training requirements will remain constant, regardless of when the training is completed. Approval to extend an inspector's refresher training beyond the established due date must be approved as a deviation in accordance with this IMC.

If an inspector does not complete all refresher training requirements, the supervisor must evaluate the inspector's proficiency to conduct independent inspections. The cognizant supervisor may assign inspectors who have not maintained qualification to perform full-scope, independent inspections—based on their judgment. Any inspector deemed proficient, remains qualified to conduct independent inspections while the supervisor seeks a deviation.

06.03 Required Post-Qualification Training

Some technical proficiency journals require post-qualification training in addition to initial qualification and required refresher training. This type of training is deemed essential to the technical area; however, it is not required to be completed prior to initial qualification. Required Post-Qualification Training shall be completed in accordance with the requirements of the applicable technical proficiency journal appendix.

06.04 Continuing Training

Qualified inspectors are expected to build on what they have learned during initial training as well as to keep up to date on changes to the inspection program. The appropriate NMSS or NSIR division will evaluate lessons learned from recent industry events and agency activities to determine the need for staff training. Continuing training is suggested but not required. More specifically, continuing training may be needed to support:

- a. Temporary instructions (TIs) or Policy and Guidance Directives (P&GDs) that focus on a specific area may necessitate staff receiving special training before performing inspections. The NMSS or NSIR program area division having lead responsibility for preparing the TI will identify these special training requirements and communicate the training needs to the ADHRTD as necessary. The schedule for preparation of any special training should allow enough advance time for the lead NMSS or NSIR division, in coordination with the ADHRTD, to prepare the required training course and implement it, before inspection or licensing is performed using the TI.
- b. Changes to inspection procedures (IPs), IMCs, or other aspects of the inspection program may necessitate training. The need for continuing training will be evaluated by the appropriate NMSS or NSIR division whenever the inspection program is modified. Any training requirements must be completed by all qualified inspectors who are expected to implement any changed inspection procedure.
- c. Novel processes or facilities such as Mixed Oxide or Laser Enrichment specific training.

06.05 Methods to Restore Proficiency

Although all qualified staff are required to maintain qualification proficiency, circumstances may arise where qualification requirements were not maintained (e.g., extended leave of absence, change of duties to another work area, etc.). In those cases,

the following should be satisfied to restore the lapsed IMC1247 proficiency for fuel facility inspectors.

- a. Inspections not performed on a routine basis: The inspector should participate in one to two inspection accompaniments as determined by their immediate supervisor to be reacclimated prior to inspecting independently.
- b. Post-qualification or refresher training requirements not met: As applicable, the inspector should satisfy the respective training as required prior to inspecting independently. If training availability or special circumstance challenges arise, the applicable sections of this IMC should be applied and followed (i.e., Section 05.05 "Special Circumstances," Section 05.04, "Interim Inspector Qualification," with the recommendation coming from the immediate supervisor and approval from the applicable Division Director).

1247-07 SPECIALIZED QUALIFICATIONS REQUIRED FOR SPECIFIC INSPECTION ACTIVITIES

The following Technical Proficiency (Appendix C) or Advanced (Appendix D) Qualification must be completed prior to performing independent inspection in the respective inspection procedures:

- a. IMC 1247, Appendix C4 must be completed before conducting independent inspection using inspection procedures associated with the Physical Protection Program Area specified in IMC 2600, Appendix B.
- b. IMC 1247, Appendix C5 must be completed before conducting independent inspection using IMC 2683, "Material Control and Accounting Inspection of Fuel Cycle Facilities," inspection procedures.
- c. IMC 1247, Appendix C6 must be completed before conducting independent inspection using IP 88015, "Nuclear Criticality Safety."
- d. IMC 1247, Appendix D1 must be completed before conducting independent inspection using IP 81815, "Authorization for Access to National Security Information (NSI) & Restricted Data (RD)" or IP 81820, "Physical Protection Facility Approval and Safeguarding of National Security Information and Restricted Data."

1247-08 MONITORING PROGRAM EFFECTIVENESS

The implementation of the NMSS programs will be monitored by the program office to identify any areas where programmatic performance may be declining. Staff may provide feedback via comments and recommendations on the content and effectiveness of the inspector qualification program outlined in this IMC to NMSS staff. The program office will monitor program effectiveness by reviewing training and qualification board results and monitoring feedback from regional representatives at least annually or through the periodic assessment process for overall fuel cycle facility program effectiveness.

1247-09 PROGRAM REVISIONS

This IMC is periodically revised as necessary to reflect new training needs of staff as determined by changes to current policy or changes to procedures, or both. An individual who is **full inspector** qualified prior to the time any revisions are made to this IMC will continue to use the IMC that they **completed** the qualification process under. However, applicability of new requirements and the method of training on the revision for previously qualified staff will be determined by the program office.

Those individuals previously qualified to perform limited scope activities will continue in that status. However, any new requirements must be met in order to achieve full inspector qualification.

Staff in the process of qualifying when a revision is issued will transition to and complete their qualification under the new program. Individuals will be given credit in the new program for training activities completed in the old program based on Section 05.02 of this IMC.

Major program revisions will be issued with specific guidance on how training and work completed under the old program should be applied within the new program. Qualification records converted in accordance with this guidance will not require additional approvals.

END

List of Attachments:

- Attachment 1, General Overview of the Fuel Facility Inspector Training and Qualification Program
- Attachment 2, Inspector Competencies **and Inspector Competency Assessment by the Oral Qualification Board**
- Attachment 3, Fuel Facility Inspector Qualification Requirements for Inspectors Previously Qualified Under IMC1245, **or** IMC 1246
- Attachment 4, Revision History for IMC 1247

List of Appendices for IMC 1247:

- Appendix A, Basic-Level Training and Certification Journal
- Appendix B, General Proficiency-Level Training and Qualification Journal
- Appendix C, Technical Proficiency-Level Training and Qualification Journals
- Appendix C1, Fuel Facility Operations Inspector Technical Proficiency Training and Qualification Journal
- Appendix C2, Fuel Facility Health Physics Inspector Technical Proficiency Training and Qualification Journal
- Appendix C3, Fuel Facility Emergency Preparedness Inspector Technical Proficiency Training and Qualification Journal
- Appendix C4, Fuel Facility Security Inspector Technical Proficiency Qualification Journal
- Appendix C5, Fuel Facility Material Control and Accounting Technical Proficiency Training and Qualification Journal

Appendix C6, Fuel Facility Criticality Safety Technical Proficiency Training and
Qualification Journal

Appendix D1, Information Security Inspector Specialized Qualification Program Training
and Qualification Journal

Attachment 1: General Overview of the Fuel Facility Inspector Training and Qualification Program

The inspector training and qualification program is designed to ensure the development of competency in the four general areas of 1) legal basis and regulatory processes, 2) technical expertise, 3) regulatory practices, and 4) personal and interpersonal effectiveness. A more detailed listing of competency information is provided in Attachment 2 and is derived from work done for operating reactor inspectors which was documented in "Revising Inspection Manual Chapter 1245, Inspector Training and Qualification: Rationale and Methodology for Changes" (ML030030669).

Basic-Level Program.

The inspector qualification process begins with the Basic-Level program. This part is designed to allow individuals to begin their training the first day they begin work at the NRC. The emphasis in the Basic-Level is mainly on on-the-job activities and structured, self-paced and self-directed individual study.

Completing the Basic-Level program will develop an awareness of the role of the agency, the role of the inspector, and the technology being regulated. Individuals work on activities that will introduce them to the regulatory framework, fuel cycle processes and facilities, information technology, emergency response, communication, and inspection. In addition, some interpersonal skills courses are required for the Basic-Level certification. If time permits, these courses may be completed with other Basic-Level requirements but in all cases must be completed prior to becoming a fully qualified inspector.

This "overview" approach provides the context for meaningful learning during on-site work, a foundation for in-depth training in the next level, and serves as the basis for granting individuals some independence in performing limited job-related activities while they are in the qualification process. To that end, upon completion of all requirements in the Basic-Level portion of the Training and Certification Journal, the individual will be certified by their immediate supervisor. This Basic Inspector Certification allows an inspector to perform limited scope inspection activities, as assigned, under an appropriate degree of detailed supervision. This may mean that the inspector will be allowed to perform all of some procedures or that the inspector may perform a small part of several procedures.

As a competency-based program, the emphasis of the Basic-Level is on practicing specific activities until the individual can meet the evaluation criteria. The time needed to achieve that goal will vary based on each individual's previous experience and prior training but should take no more than 3 or 6 months to complete. The foundation information presented in the Basic-Level should be started first but does not need to be completed before the other qualification activities are started.

Proficiency Level Program.

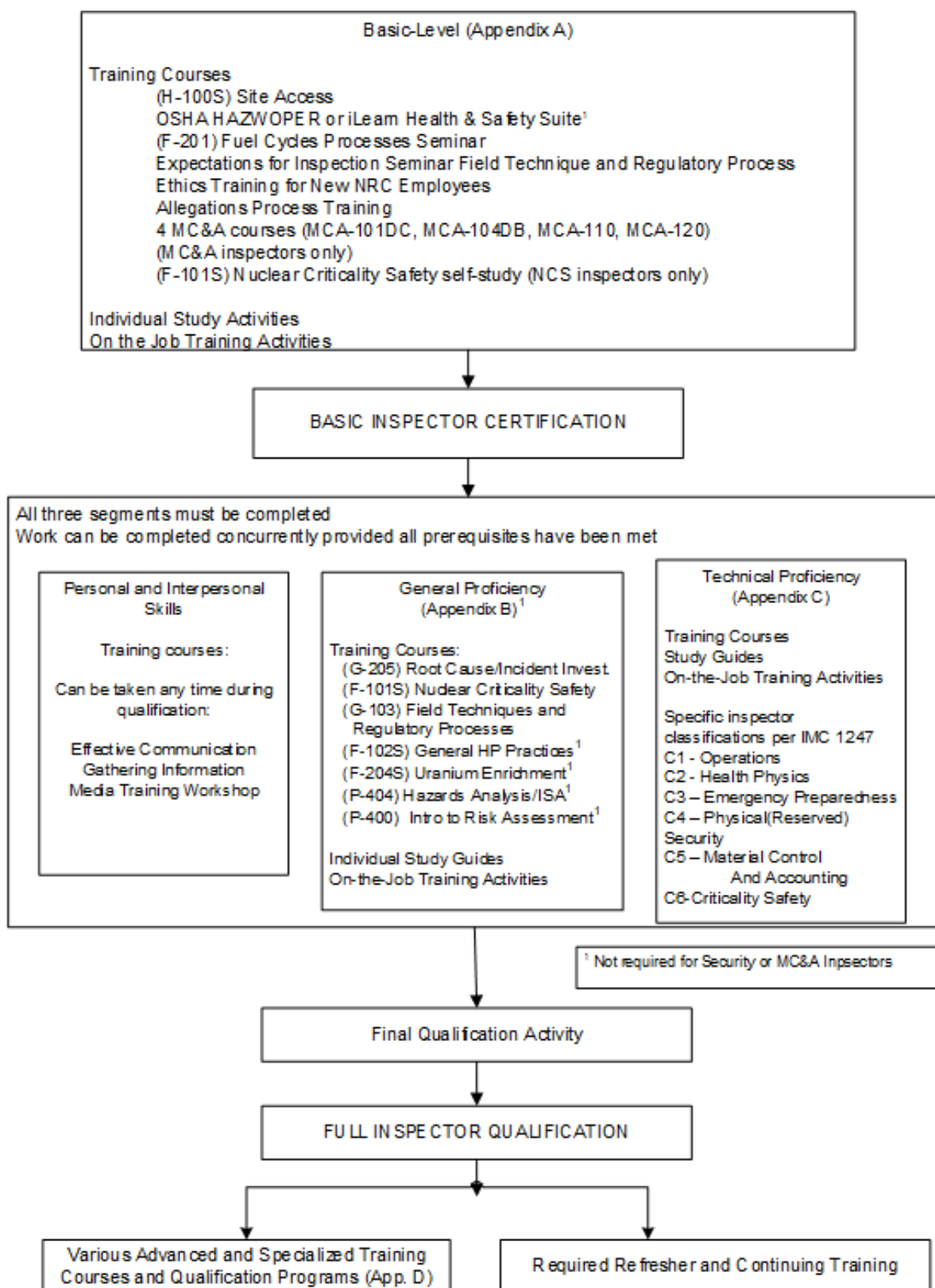
There are two aspects of inspector performance that are addressed at the proficiency-level, general proficiency and technical proficiency. General proficiency focuses on developing the inspection, teamwork and interpersonal skills needed by an inspector to function either independently or as part of a team to implement the inspection and oversight program. General proficiency courses can be completed concurrently with the technical proficiency courses as long as the course prerequisites are maintained. Technical proficiency focuses on developing the appropriate depth of knowledge in one of the seven specific technical inspection areas.

General proficiency, technical proficiency, and personal and interpersonal skills training activities may be completed in parallel.

The final qualification activity, the qualification board, is a culminating evaluation activity in the inspector training and qualification process. The qualification board evaluates the ability of an individual to integrate and apply the KSAs they have learned to field situations. Training and qualification records for individuals who have successfully completed the qualification board will be sent to the Regional Administrator or Office Director, **or designee**, for certification as a qualified inspector. Being certified as fully qualified allows an inspector to be assigned the full scope of inspection-related activities to be independently performed with routine oversight and supervision.

The overall sequence of the **inspector training and qualification program is outlined in Figure 1 on the next page.**

Figure 1: Inspector Training and Qualification Program Sequence for Fuel Facility Inspectors



Attachment 2: Inspector Competencies

The training and qualification program detailed in this IMC is designed to ensure that inspectors acquire competency in four general areas:

Area 1: Understand the legal basis and the regulatory processes for achieving the NRC's regulatory objectives by:

- a. Acquiring a fundamental understanding of the USNRC organizational structure, mission, goals, and objectives (Regulatory Framework) ¹
- b. Understanding the basis for the authority of the agency (Regulatory Framework)
- c. Understanding the processes established to achieve the regulatory objectives (Regulatory Framework)

Area 2: Understand the technology and apply concepts in various technical areas to allow the NRC to carry out its overall responsibilities by:

- a. Understanding science and engineering fundamentals in a specific field of expertise (Basic Technologies)
- b. Developing and maintaining an understanding of the basic fuel cycle facility processes, hazards, and how licensees must provide for protection of public health and safety (Technical Area Expertise)
- c. Using the knowledge of a specific facility type or within a specialized technical area to identify, address, and resolve regulatory issues (Technical Area Expertise)

Area 3: Master the techniques and skills needed to collect, analyze, and integrate information using a safety focus to develop a supportable regulatory conclusion by:

- a. Independently gathering information through objective review, observation, and open communications (Inspection)
- b. Determining acceptability of information by comparing to established criteria (Inspection)
- c. Responding to events or conditions involving potential or actual adverse safety consequence (Emergency Response)
- d. Approaching problems objectively, gathering and integrating information, and developing a comprehensive understanding before reaching a conclusion (Problem Analysis)
- e. Objectively analyzing and integrating information using a safety focus to identify the appropriate regulatory conclusion and regulatory response (Assessment and Enforcement)

¹Specific competency areas are listed in parenthesis following each item

Area 4: Have the personal and interpersonal skills to carry out assigned regulatory activities either individually or as a member of a team by:

- a. Clearly expressing ideas or thoughts, carefully listening, and speaking and writing with appropriate safety focus and context (Communication)
- b. Working collaboratively with others toward common objectives (Teamwork)
- c. Working independently, exercising judgment, and exhibiting flexibility in the completion of activities including during difficult or challenging situations (Self-Management)
- d. Using technology to gather, manipulate, and share information (Information Technology)

Inspector Competency Assessment by the Oral Qualification Board

The Qualification Board will specifically assess how well an inspector demonstrates an understanding of and appreciation for the NRC's organizational values of integrity, excellence, service, respect, cooperation, commitment, and openness. To that end, the Oral Qualification Board will be used to verify that inspectors demonstrate the following knowledge and abilities in the listed competency areas:

Area 1: Legal Basis and Regulatory Processes

- a. Appreciation of federal, state and local interfaces
- b. Appreciation and understanding of the rights and concerns of stakeholders
- c. Appreciation of how legal requirements relate to routine tasks
- d. Comprehension of relevant policies and procedures used in carrying out specific regulatory tasks
- e. Understands Regulatory Authority, NRC mission statement and its implementation guidance for oversight activities
- f. NRC's Principles of Good Regulation, and NRC's Organizational Values

Area 2: Technical Disciplines

- a. Knowledge or abilities identified to be verified by the Qualification Board
- b. Technical knowledge may be assessed at discretion of cognizant Branch Chief

Area 3: Regulatory Practices

- a. Appreciates the need for sensitivity when following up on allegations
- b. Recognizes the nature of information and treats that information in accordance with the appropriate guidance
- c. Factual answers are in keeping with the Agency's position and views
- d. Recognizes and responds with an appropriate sense of urgency to incidents as they arise and ensures that others are appropriately informed
- e. Uses sound judgment in exercising the appropriate level of caution, planning and contingency planning
- f. Demonstrate risk-informed approaches to inspection planning and issue resolution and leverages agency tools such as the Be riskSMART decision-making process to determine appropriate agency actions
- g. Makes appropriate generalizations from data
- h. Maintains an awareness of current Agency priorities and sensitivities

- i. Identifies key issues, understands the consequences, and applies the appropriate regulatory framework
- j. Proposes supportable enforcement action based on a review of the subject

Area 4: Personal and Interpersonal Effectiveness

- a. All communication reflects an awareness of public concern, the focus of local official needs, **licensee**, and media perspectives.
- b. Uses tact and diplomacy in conveying messages ensuring that the listener understands the rationale and logic behind the message.
- c. Resolves conflict by facilitating discussion and proposing mutually beneficial solutions. Seeks advice when appropriate.
- d. Communicates messages with clarity and impact to widely varied forums and provides answers that reflect an awareness of the sensitivities and interests of the audience.
- e. Is not afraid to admit not having the answer and knows where to find answer or to get assistance.
- f. Maintains a commitment to team objectives even when own ideas are not supported.
- g. Shows flexibility in response to change.
- h. Recognizes limits of authority and uses the authority in a fair and equitable manner.
- i. Exercises diplomacy and discretion during interactions with difficult audiences and situations.
- j. Approaches others in a way that elicits cooperation.

Attachment 3: Fuel Facility Inspector Qualifications Requirements for Inspectors Previously
Qualified Under IMC 1245 or IMC 1246

Signature Card and Division Director Certification

Inspector Name:	Employee Initials/ Date	Chief or Designee Signature/Date
Required Individual Study Activities (ISAs)		
SG-7 Exploring the Fuel Facility Inspection Program		
SG-18 Integrated Safety Analysis Overview		
SG-19 Overview of 10 CFR Part 30		
SG-20 Overview of 10 CFR Part 40		
SG-21 Overview of 10 CFR Part 70		
SG-22 Overview of 10 CFR Part 71		
SG-23 Overview of 10 CFR Part 73		
SG-24 Overview of 10 CFR Part 74		
SG-26 Licensee-Specific Regulatory Documents and Procedures		
SG-27 Planning Fuel Facility Inspections		
SG-28 Information Security		
Required Training Courses		
OSHA HAZWOPER (TMS)		
F-201 or F-201S, Fuel Cycle Processes		
F-101S, Nuclear Criticality Safety ²		
F-102S, General HP Practices for Fuel Cycle Facilities ²		
F-204S, Uranium Enrichment Processes		
C-115, Hazards Analysis (ISA) Training, or equivalent course (see IMC 1247, Appendix A for details)		
MCA-101DC, Intro to Nuclear Materials Control and Accountability ¹		

Inspector Name:	Employee Initials/ Date	Chief or Designee Signature/Date
MCA-104DB, Introduction to Measurement Programs ¹		
MCA-110, Basics of Nuclear Materials Accountability ¹		
MCA-120, Basics of Nuclear Materials Control ¹		
On-the-Job Training Activities		
OJT-1, Facility Familiarization Tour with a Qualified Inspector		
OJT-2, Licensee Performance Reviews		
OJT-3, Inspection Activities		
OJT-4, Documenting Inspection Findings		
OJT-General-2, Classification Guides		
Required Technical Proficiency (Appendix C or D)		
Complete the appropriate technical proficiency Appendix or equivalent: Specific inspector classifications per IMC 1247 C1 – Operations C2 – Health Physics C3 – Emergency Preparedness C4 – Physical Security C5 – Material Control And Accounting C6 – Criticality Safety D1 – Information Security		

¹Required for MC&A inspectors only

²Not required for initial qualification of security or MC&A inspectors

Supervisor's signature indicates successful completion of all required courses and activities listed in this journal and readiness to appear before the Oral Board, if applicable.

Supervisor's Signature: _____ Date: _____

Attachment 4: Revision History for IMC 1247

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 Information)
N/A		Updated to add qualification program for Nuclear Criticality Inspector qual (IMC 1247 App C6)		
N/A	02/18/09 CN 09-006	Researched commitments for 4 years and found none. New inspection manual chapter to replace the qualification requirements in IMC 1246 for NRC fuel facility operations, health physics, emergency preparedness, security, material control and accounting, and construction inspectors.	None	ML090370940
N/A	ML12257A125 06/11/14 CN 14-012	This document has been revised to reflect Changes in IMC 1247 Appendixes and to include new Appendix C6 – Criticality Safety has been added to IMC 1247.	None	ML14084A476
N/A	ML14225A560 10/28/14 CN 14-026	Added Appendix D, for INFOSEC Inspector qualification and other minor editorial changes.	None	ML14225A557
N/A	ML24117A291 07/25/25 CN 25-026	This document has been revised to reflect the changes in IMC 1247 Appendices.	None	None