
INSPECTION PROCEDURE 41501

PART 52, REVIEW OF TRAINING AND QUALIFICATION PROGRAMS

Effective Date: **June 4, 2019**

PROGRAM APPLICABILITY: **IMC 2504 B**

CORNERSTONE: **Operational Programs**

INSPECTION BASES: 10 CFR 50.120, "**Training and Qualification of Nuclear Power Plant Personnel**," requires that each applicant for an operating license issued under Part 50 and each holder of a combined license issued under Part 52 shall, no later than 18 months before the scheduled date for initial loading of fuel, establish, implement, and maintain a training program derived from a systems approach to training, as defined in 10 CFR 55.4 and must provide for the training and qualification of the following categories of nuclear power plant personnel:

- (1) Non-licensed operator.
- (2) Shift supervisor.
- (3) Shift technical advisor.
- (4) Instrument and control technician.
- (5) Electrical maintenance personnel.
- (6) Mechanical maintenance personnel.
- (7) Radiological protection technician.
- (8) Chemistry technician.
- (9) Engineering support personnel.

10 CFR Part 55, "Operators' Licenses," **contains training program requirements for applicants, licensed operators, and senior licensed operators.**

The training programs must incorporate the instructional requirements necessary to provide qualified personnel to operate and maintain the facility in a safe manner in all modes of operation. The training programs must be developed to be in compliance with the facility license, including all technical specifications and applicable regulations. **The training program must be periodically evaluated and revised as appropriate to reflect industry experience as well as changes to the facility, procedures, regulations, and quality assurance requirements. The training program must be periodically reviewed by licensee management for effectiveness.**

Sufficient records must be maintained by the licensee to maintain program integrity and kept available for NRC inspection to verify the adequacy of the program.

41501-01 INSPECTION OBJECTIVES

01.01 To ensure that the training and qualification programs for licensed operators and non-licensed staff are analyzed, designed, developed, implemented, evaluated, and maintained as required by regulatory requirements and licensee commitments.

41501-02 INSPECTION REQUIREMENTS

This is a one-time inspection conducted after the non-licensed plant staff training programs, licensed operator training programs, and licensed operator requalification programs have been implemented and are being maintained.

It is not necessary to perform this IP for training programs that have been accredited by the National Nuclear Accrediting Board (NNAB) (refer to Section 41501-03 of this IP).

Refer to section 02.03 below for NRC staff observation of accreditation activities and associated documentation requirements.

If a facility licensee does not seek license operator training program accreditation through the NNAB, then this procedure should be used to inspect the facility licensee's initial licensed operator training program before the administration of the first NRC examination.

The safety of nuclear power plant operations and the assurance of general public health and safety depend on personnel performing at adequate levels. The systematic determination of qualifications and provisions for effective initial training and periodic retraining enhance public confidence that workers can perform their jobs. In 10 CFR 50.120 and 10 CFR Part 55, the Commission requires that applicants and licensees use the systems approach to training (SAT) to analyze, design, develop, implement, and evaluate (ADDIE) training programs **for personnel on site**. This approach provides for flexibility and site-specific adaptations in the training and qualification programs.

Consistent with the SAT process as defined in 10 CFR 55.4, each applicant and licensee is required to include the following key elements in their training programs

- a. Systematic analysis of job performance requirements and training needs.
- b. Derivation of learning objectives, based upon the preceding analysis, which describe desired performance after training.
- c. Training program design and implementation based on the learning objectives.
- d. Evaluation of trainee mastery of learning objectives during training.

- e. Training program evaluation and revision based upon the performance of trained personnel in the job setting.

The inspectors will use NUREG-1220, Revision 1, "Training Review Criteria and Procedures," to evaluate the effectiveness of training and qualification programs in meeting and maintaining job performance needs and to evaluate the licensee's SAT process for analyzing, designing, developing, implementing, and evaluating training and qualification programs.

Section 13.2 of the Safety **Analysis** Report for the facility includes a description of the training and retraining programs for licensed and non-licensed staff.

02.01 Licensed Operator Training

- a. Verify that the licensee has designed, developed, implemented, and maintains a licensed operator training and requalification program that complies with 10 CFR 55, "Operators' Licenses," **and any licensee commitments for training and qualification of the following (e.g., Regulatory Guide 1.8, "Qualification and Training of Personnel for Nuclear Power Plants"):**
 - 1. Reactor operators
 - 2. Instant senior reactor operators
 - 3. Reactor operators upgrading to senior reactor operator licenses
 - 4. Senior reactor operators
 - 5. Senior reactor operators limited to fuel handling
- b. Verify that licensed operator training and requalification training is based on position specific task analyses; ensure that the tasks performed in each job category are defined; and ensure that training, education, and experience provide assurance that the tasks can be effectively executed.

02.02 Non-licensed Staff Training

- a. Verify that the licensee has designed, developed, implemented, and maintains non-licensed staff training and retraining programs for the following programs and plant personnel:
 - 1. Training programs and personnel required by 10 CFR 50.120, "Training and qualification of nuclear power plant personnel."
 - 2. Training positions and processes described in Regulatory Guide 1.8, "Qualification and Training of Personnel for Nuclear Power Plants."
- b. Verify that non-licensed staff training, as appropriate, is based on position specific task analyses; ensure that the tasks performed by persons in each job category are defined; and ensure that staff training, education, and experience provide assurance that the tasks can be effectively executed.

02.03 Accreditation

- a. For facility licensee training programs accredited by the NNAB, review the accreditation letter from INPO to the facility licensee and confirm that accreditation has been granted for the training program(s).
- b. The NRC staff should observe accreditation activities in accordance with the Memorandum of Understanding with INPO. Contact the operator licensing program office for information about accreditation observations.
- c. Accreditation of a facility licensee's initial licensed operator training (ILT) program should be achieved prior to the first NRC operator licensing examination. Contact the operator licensing program office for information regarding accreditation status.
- d. If the licensee has not already achieved NNAB accreditation and it intends to, verify that the licensee has a plan and schedule for attaining accreditation. Verify the plan is consistent with the fuel load and startup schedules such that all fuel load and startup required staff positions will be filled with fully trained and qualified personnel when required.

41501-03 INSPECTION GUIDANCE

NNAB accredited training programs developed in accordance with Institute of Nuclear Power Operations (INPO) guidelines have been developed using SAT principles. The NRC has endorsed NNAB accreditation as a method of complying with the requirements of 10 CFR Part 55 for licensed operator training and of 10 CFR 50.120 for non-licensed staff training.

Licensees and applicants have committed to achieving accreditation for the categories of nuclear power plant personnel listed in 10 CFR 50.120 and 10 CFR 55. It should be noted that training programs for which regulations are in place (e.g., fire brigade, emergency response, security) are not subject to accreditation and are not affected by endorsement of accreditation.

41501-04 RESOURCE ESTIMATE

A training inspection will typically require four individuals: a team leader, two subject matter experts, and a person familiar with systems approach to training processes. A subject matter expert should be assigned for each program being inspected. For inspections of licensed operator initial and/or licensed operator requalification training programs, an operator licensing examiner shall act as one of the subject matter experts. This inspection is expected to expend a minimum of 120 hours for each program inspected.

41501-05 PROCEDURE COMPLETION

Completion of this procedure consists of completing the steps in Section 41501-02 either by **verifying the accreditation of training programs or by inspecting the** training programs that have not achieved accreditation.

41501-06 REFERENCES

10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities"

10 CFR 50.120, "Training and Qualification of Nuclear Power Plant Personnel"

10 CFR Part 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants"

10 CFR Part 55, "Operators' Licenses"

Regulatory Guide 1.8, "Qualification and Training of Personnel for Nuclear Power Plants"

NUREG-1021, "Operator Licensing Examination Standards for Power Reactors"

NUREG-1220, "Training Review Criteria and Procedures"

ANSI/ANS 3.1- 2014, "Selection, Qualification, and Training of Personnel for Nuclear Power Plants"

Commission Policy Statement on Training and Qualification of Nuclear Power Plant Personnel (50 FR 11147-48 (March 20, 1985))

Applicable Generic Communications

END

Attachment 1 - Revision History for IP 41501

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	ML110310646 04/25/11 CN 11-007	Initial issue to support inspections of operational programs described in IMC 2504, NON-ITAAC INSPECTIONS. Completed 4 year historical CN search.	N/A	
N/A	ML16103A237 04/27/16 CN 16-011	Revised to indicate that training program Accreditation by the National Nuclear Accrediting Board is an acceptable method of meeting regulatory requirements negating the need for a planned training inspection prior to fuel load.	N/A	ML16103A238
N/A	ML19007A070 06/04/19 CN 19-018	Revised to make the inspection procedure consistent with the requirements of 10 CFR 50.120, including industry construction and operating experience, and to make a minor correction. Also added 10 CFR Part 55 to the inspection basis. Removed fire protection, emergency preparedness, and security personnel training from this procedure as these programs are not under 10 CFR Part 120 and training in these disciplines will be inspected under the applicable program. Also added recommended revision resulting from the Charter for Enhancing the Nuclear Regulatory Commission Cold Operator Licensing Process, Part B Recommendations (ML18236A864).	N/A	ML19007A068