

Nuclear Regulatory Commission and Agreement State regulations require that radiography licensees may not permit any individual to act as a radiographer until the individual is certified through a radiographer certification program by a certifying entity in accordance with the criteria specified in the regulations. The program criterion is specified in NRC and Agreement State regulations as Appendix A to the industrial radiography rules. Many States also require certification for individuals acting as radiographers using industrial x-ray equipment.

Currently a certifying entity may be an independent certifying organization meeting the requirements in Appendix A or an Agreement State meeting the requirements in Appendix A, Parts II and III. An independent certifying organization means an independent organization that meets all of the criteria of Appendix A. An Agreement State would also develop implementing regulations and procedures in support of its certification program.

In order to evaluate radiographer certification programs and recognize certifying entities, NRC and the Conference of Radiation Control Program Directors, Inc. (representing both the Agreement and non-Agreement States) coordinated to develop certification program evaluation criteria. Two separate evaluation documents have been developed. One should be used for radioactive material use only certification programs. The other should be used for certification programs that include both radioactive materials and x-ray (or may be used for x-ray only programs).

This document provides guidance to an applicant, wishing to be recognized as a certifying entity, in preparing an industrial radiographer certification program application as well as the review criteria used for evaluating the radiographer certification program application.

The format within this document for each item of technical information is as follows:

- The regulatory requirement applicable to the item is specified
- Decision Element outlines the information needed and the criteria used to judge the adequacy of the applicant's response
- Shaded boxes provide additional information on the topic, program expectations, and useful reviewer notes
- Additional commitments expected of applicants are delineated on the last page

The document will also be used as a checklist to review applications, and may be used by applicants in checking for completeness.

For the pilot project, States are also asked to address items I.9 through I.13 of the criteria.

Agreement States or independent organizations that would like to be recognized as a certifying entity shall submit their request to the Conference of Radiation Control Program Directors, Inc., Attn: G-34 Committee, 205 Capital Avenue, Frankfort, KY 40601.

(Presently, an independent organization that would like to be recognized as a certifying entity should submit its request to the Director, Office of Nuclear Materials Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001.)

Appendix A to 10 CFR Part 34--Radiographer Certification

To qualify as a certifying entity, the potential independent certifying organization or certifying state, hereinafter called "applicant," should provide documentation demonstrating that it has achieved the following performance objectives.

NOTE: An applicant may find that it is providing identical information under more than one heading. In such cases, an applicant may make a clear and concise reference to the previously provided information.

I. Requirements for an Independent Certifying Organization

An independent certifying organization shall:

1. Be an organization such as a society or association, whose members participate in, or have an interest in, the fields of industrial radiography;

Decision Element

- Provide a copy of the Association or Society Charter
- Provide documentation of the organization's interest in radiation safety
- Describe the composition of the governing body
- Describe the duties of the governing body

An applicant with a strong education commitment and a not-for-profit status is preferred.

2. Make its membership available to the general public nationwide that is not restricted because of race, color, religion, sex, age, national origin or disability;

Decision Element

- Provide evidence that documents an open membership policy
(Acceptable documentation: Identify the specific reference to the applicable section of the by-laws, policy statements or equivalent documents)

3. Have a certification program open to nonmembers, as well as members

Decision Element

- Provide documentation that nonmembers may apply for certification by the program
(Acceptable documentation: by-laws, policy statements or equivalent documents)

4. Be an incorporated, nationally recognized organization, that is involved in setting national standards of practice within its fields of expertise

Decision Element

- Provide a copy of the organization's Articles of Incorporation and By-laws
- Provide information on the organization's membership distribution
- Provide evidence that the organization is nationally recognized by the CRCPD, NRC and radiography industry for developing and setting national standards of practice

5. Have an adequate staff, a viable system for financing its operations, and policy- and decision-making review board

Decision Element

- Provide a general plan for implementing the certification program
- Describe the proposed scope of the certification program
- Describe the staff resources to be used to operate the proposed certification program
- Provide staff position descriptions
- Describe the funding for the proposed certification program
- Describe staffing of all policy- and decision-making review boards
- Describe duties and responsibilities of all policy- and decision-making review boards
- Has the above plan been approved by the governing body?

The applicant should supply evidence that demonstrates historical involvement, stability and accepted or recognized performance.

6. Have a set of written organizational by-laws and policies that provide adequate assurance of lack of conflict of interest and a system for monitoring and enforcing those by-laws and policies

Decision Element

- Reference the applicable section of the written by-laws and/or provide the policies that prohibit conflict of interest
- Describe the system used by the organization for monitoring and enforcing by-laws and policies

For example, an applicant should not be involved with contracting industrial radiography work.

7. Have a committee, whose members can carry out their responsibilities impartially, to review and approve the certification guidelines and procedures, and to advise the organization's staff in implementing the certification program

Decision Element

- Describe how the independent committee's membership is separate from the working staff and management to ensure impartiality
- Describe the committee's:
 - authority
 - duties, and
 - responsibilities for advising the staff on the implementation of certification program activities
- Describe the internal program audit frequency
- Provide a copy of the audit checklist

Reviewer's note: The purpose of the independent status of the committee is to facilitate internal oversight functions.

The internal program audit should be in accordance with generally-accepted principles and practices that are reasonable for the organization's scope of operations.

8. Have a committee, whose members can carry out their responsibilities impartially, to review complaints against certified individuals and to determine appropriate sanctions

Decision Element

- Describe how the independent committee's membership is separate from the working staff and management, and independent of the committee previously described in I.7.
- Provide confirmation the committee uses the rules of conduct as a basis for its review
- Provide confirmation that the governing body has approved the rules of conduct
- Provide a copy of the complaint and hearing procedures for reviewing complaints and verifying whether violations have occurred
- Provide confirmation that the committee is authorized to:
 - review complaints against certified individuals
 - verify whether violations have occurred
 - determine appropriate sanctions
 - monitor, review and respond to sanctions imposed by other certifying entities and enforcement actions imposed by regulatory agencies

9. Have written procedures describing all aspects of its certification program, maintain records of the current status of each individual's certification and the administration of its certification program

Decision Element

An applicant should submit procedures for all certification program activities, which should include, but not be limited to:

- Administrative activities, including:
 - notifying applicants about examination dates, locations, times, etc. and providing application forms
 - processing applications
 - processing requests for special accommodations under the American Disabilities Act
 - reviewing classroom training documentation
 - reviewing on-the-job training
- Examination day activities, including:
 - examination registration process
 - examination/instruction process
- Post examination day activities, including:
 - examination grading/scoring
 - reporting scores to individuals
 - issuing identification cards
- Records maintenance activities, including:
 - types of records kept
 - record formats
 - records retention schedule

Examination records should be held, at minimum, equal to the duration of the certification period. Training records should be maintained for a sufficient length of time and in sufficient detail to assure an understanding of an individual's certification history. Records related to enforcement actions, allegations, and misconduct against an individual's certification should be retained for the life of the program.

10. Have procedures to ensure that certified individuals are provided due process with respect to the administration of its certification program, including the process of becoming certified and any sanctions imposed against certified individuals

Decision Element

- Provide a copy of the organization's enforcement policies and procedures
- Describe the procedures for responding to complaints
- Provide a table of sanctions
- Describe the appeal and hearing rights available to individuals involving the following:
 - enforcement actions
 - examination application process
 - results of candidate's qualifications review
 - administration of examinations
 - allegations and complaints

11. Have procedures for proctoring examinations, including qualifications for proctors. These procedures must ensure that the individuals proctoring each examination are not employed by the same company or corporation (or a wholly-owned subsidiary of such company or corporation) as any of the examinees

Decision Element

- Provide the procedures for verifying proctor qualifications, including:
 - verification of no conflict of interest issues with the proctors
 - verification that proctors have received training in the procedures listed below
- Provide the training/instruction procedures individuals receive for proctoring examinations, including:
 - selecting an examination site, if appropriate
 - security of examination materials prior to examination session
 - examination room arrangement
 - proper working order of equipment
 - conducting registration process
 - verification of identification of examinees
 - distributing examination materials
 - presenting examination instructions
 - proper oversight of examinees during the examination period
 - handling suspected cheating incidences
 - collecting and securing examination materials
 - returning examination materials to examination provider
 - notifying/documenting problems or irregularities

12. Exchange information about certified individuals with the Commission and other independent certifying organizations and/or Agreement States and allow periodic review of its certification program and related records

Decision Element

- Provide procedures for:
 - exchanging information with NRC, AS, or other certifying entities regarding an individual's certification history
 - notifying the NRC, AS, and other certifying entities of final enforcement actions against an individual
- Confirm that the organization will participate in periodic, independent audits of its certification program and related records

13. Provide a description to the Commission of its procedures for choosing examination sites and for providing an appropriate examination environment

Decision Element

- Provide procedures for selecting a neutral and appropriate examination site, including considerations for:
 - appropriate size for number of examinees
 - adequate work space to ensure separation of examinees
 - suitable lighting, ventilation, and temperature
 - no posted radiation-related information
 - minimal noise distractions
 - availability of nearby restrooms
 - physical accessibility according to the American Disabilities Act

A neutral and appropriate examination site must not be a licensee's or registrant's facility, with the possible exception of military facilities

II. Requirements for Certification Programs

All certification programs must:

1. **Require applicants for certification to (a) receive training in the topics set forth in Sec. 34.43(g) or equivalent Agreement State regulations, and (b) satisfactorily complete a written examination covering these topics**

Decision Element

- **(a)** Provide evidence that the certification program requires an applicant for certification to have received radiation safety training in:
 - a formal course accepted by NRC or AS, AND
 - the course is approximately 40 hours in length
- **(b)** Provide evidence the certification program requires that an applicant for certification pass a written examination on the required topics that is administered by a certifying entity

2. **Require applicants for certification to provide documentation that demonstrates that the applicant has: (a) received training in the topics set forth in Sec. 34.43(g) or equivalent Agreement State regulations; (b) satisfactorily completed a minimum period of on-the-job training; and (c) has received verification by an Agreement State or a NRC licensee that the applicant has demonstrated the capability of independently working as a radiographer**

Decision Element

- **(a)** Provide procedures for reviewing and accepting the documentation to verify training

(Training documentation may include a copy of a course completion certificate or a signed statement from the training provider)
- **(b)** Provide procedures for reviewing and accepting the documentation to verify completion of a minimum period of on-the-job training
 - Applicant for certification has completed NRC's two-month (320 hours) OJT requirement,
 - OR
 - a minimum of 200 hours OJT that do not include such activities as safety meetings, classroom training, darkroom activities, film interpretation, and transportation to and from temporary job sites
 - AND
 - OJT documentation includes a statement or form signed by appropriate representative - RSO or trainer
- **(c)** Provide procedures for reviewing and accepting documentation to verify that the applicant for certification has demonstrated to an AS or NRC licensee, the capability of

independently working as a radiographer

(Verification that an individual can work independently as a radiographer may be submitted as a signed audit check list or may be included on the OJT documentation form or statement)

3. Include procedures to ensure that all examination questions are protected from disclosure

Decision Element

- If applicant is developing its own item bank for testing, describe the provisions for maintaining the security of the item bank during:
 - creation of exams
 - printing
 - storage
 - distribution (shipping/packaging)
 - tracking of materials
 - disposal of materials after useful life of exam
- Describe which employees have authorized access to the item bank
- Describe any personnel screening policies that authorize background checks on current/new employees, contractors, or proctors
- Describe any policies that address reporting and investigation of all suspected security breaches
- Describe the procedures for ensuring examination security, if exams are obtained from a contract source
- Provide procedures for ensuring exam security before, during, and after the administration of the examination, and should include, at minimum, the following:
 - taking inventories of exam materials
 - securing exam booklets
 - keeping unused booklets secure at all times
 - keeping exam content confidential
 - allowing only one examinee at a time to leave exam room for rest room break
 - limiting rest room breaks to an appropriate amount of time
 - retaining exam materials in exam room while examinee is in rest room
 - monitoring examinees
 - allowing entry of only those involved in the exam
 - prohibiting the reproduction of any exam questions
 - controlling the exit of the examinees from the exam site
 - packing materials for return shipment, if applicable
 - using a secure and traceable method for the return shipment of exams

4. Include procedures for denying an application, revoking, suspending, and reinstating a certificate

Decision Element

- Provide the procedures for:
 - denying an individual's application for certification
 - revoking an individual's certification
 - reinstating an individual's certification
- Provide the procedures for the receipt, processing and maintenance of information issued by regulatory authorities and certifying entities regarding escalated enforcement actions and final orders taken against radiographic personnel

The procedures should include the consideration of the individual's current certification status, and allow for the reciprocal recognition of sanctions and enforcement actions imposed by other certifying entities or government agencies related to the use of radioactive materials.

Certification entities may issue certifications based on certifications issued by other certifying entities, and are encouraged to verify the certification status of an application (i.e., have sanctions been imposed or enforcement actions previously been taken).

5. Provide a certification period of not less than 3 years nor more than 5 years

Decision Element

- Specify the certification period

6. Include procedures for renewing certifications and, if the procedures allow renewals without examination, require evidence of recent full-time employment and annual refresher training

Decision Element

- Provide the procedures for renewing certifications if the requirements include re-examination of individuals
 - If NOT renewing certifications through re-examination, provide procedures for verifying an individual has:
 - had full-time employment in industrial radiography during the entire 12 months prior to the renewal application
- AND
- passed a job performance inspection within six months of the renewal application
- AND
- received annual refresher training within 12 months of the renewal application

7. Provide a timely response to inquiries, by telephone or letter, from members of the public, about an individual's certification status

Decision Element

- Provide the policies and time frames for responding to requests for information on an individual's certification status

Policies should also include responding to inquiries received by facsimile or E-mail.

III. Requirements for Written Examinations

All examinations must be:

1. **Designed to test an individual's knowledge and understanding of the topics listed in Sec. 34.43(g) or equivalent Agreement State requirements**

Decision Element

- Provide a list of topics covered in the examinations
- Submit the procedures for individual examination construction that include descriptions of:
 - exam specifications (blueprint)
 - item and exam format
 - exam length
 - design of test booklets and answer sheets
 - exam assembly
 - exam review
 - preparation of booklets

Accepted examinations should be comparable or similar in content and areas of emphasis to other examinations developed by certifying entities.

2. **Written in a multiple-choice format;**

Decision Element

- Provide confirmation that the examinations are constructed in a multiple-choice format

3. Have test items drawn from a question bank containing psychometrically valid questions based on the material in Sec. 34.43(g)

Decision Element

- Describe the procedures used to validate the test items, including:
 - job analysis for defining exam content domain
 - item writing
 - item reviews/rewrites for readability and lack of bias
 - field testing to collect and analyze data on performance characteristics of test items
 - item analysis and revision
 - test production according to content domain and percentage requirements
 - standards setting
 - post exam review of item analysis statistics and overall statistics
 - review of item bank for necessary changes

Note: The validation process should follow appropriate established psychometric procedures.

Commitments:

An applicant must commit to:

1. notifying the application review committee of proposed Charter/By-law and/or program changes that may impact the certification program. Additionally, any revision of procedures that form the underlying basis for the application review committee's approval of the certifying entity's program applicable to 10 CFR Part 34, Appendix A need to be submitted and approved by the application review committee prior to implementation. Revisions that are only administrative or editorial in nature do not need to be submitted.
2. verifying the acceptance of radiation safety courses by contacting the radiation control program in the state where the training is offered.