

NOTICES OF PROPOSED RULEMAKING

Unless exempted by A.R.S. § 41-1005, each agency shall begin the rulemaking process by first submitting to the Secretary of State's Office a Notice of Rulemaking Docket Opening followed by a Notice of Proposed Rulemaking that contains the preamble and the full text of the rules. The Secretary of State's Office publishes each Notice in the next available issue of the *Register* according to the schedule of deadlines for *Register* publication. Under the Administrative Procedure Act (A.R.S. § 41-1001 et seq.), an agency must allow at least 30 days to elapse after the publication of the Notice of Proposed Rulemaking in the *Register* before beginning any proceedings for making, amending, or repealing any rule. (A.R.S. §§ 41-1013 and 41-1022)

NOTICE OF PROPOSED RULEMAKING

TITLE 7. EDUCATION

CHAPTER 2. STATE BOARD OF EDUCATION

PREAMBLE

1. Sections Affected

R7-2-401
R7-2-402
R7-2-403
R7-2-404
R7-2-408

Rulemaking Action

Amend
Amend
Repeal
Amend
Amend

2. The specific authority for rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Authorizing statute: A.R.S. § 15-203(A)

Implementing statute: A.R.S. § 15-203(A)(14)

3. A list of all previous notices appearing in the Register addressing the proposed rule:

Notice of Rulemaking Docket Opening: 9 A.A.R. 535, February 21, 2003

4. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Name: Christy Farley
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5. An explanation of the rule, including the agency's reasons for initiating the rule:

In January 2002, Exceptional Student Services (ESS) and the Arizona Special Education Advisory Panel (SEAP) began a yearlong study of Sections R7-2-401, R7-2-402, R7-2-403, R7-2-404, R7-2-405, and R7-2-408. This study was prompted by: (1) deficiencies noted in the U.S. Department of Education, Office of Special Education Programs (OSEP) review of the Arizona documentation for eligibility for funding under the Individuals with Disabilities Education Act and (2) changes needed after two years of experience under the rules certified in March 2001.

The proposed rules include modifications required by the Federal "No Child Left Behind" Act and changes to comply with statutory changes that have been adopted by the Arizona Legislature as well as clarifications to existing processes. Specific areas addressed include: (1) timelines for schools establishing extended school year program eligibility for students on an Individualized Education Plan (IEP) and the addition that extended year programs must be an available option; (2) extends the K-12 screening requirement to preschool programs operated by public schools to comply with the federal Office of Special Education Programs requirement; (3) includes re-evaluations of students with disabilities to be on the same timeline requirement as initial evaluations; (4) the special education voucher program rules (R7-2-404) were modified to align with current interagency protocols and to remove the highly specific language that inhibits simplification and improvements to the system (i.e. specific form names and identifying numbers rather than descriptions); (5) eliminates the out-of-state private special education schools language (R7-2-403) because it is unnecessary with the existing state voucher program (R7-2-404); (6) makes certain modifications to the

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requirements for private schools who accept students on an IEP, and (7) clarifies the requirement that each child with an IEP have some level of specialized instruction by a certified special education teacher or related services provider. Additional details on the proposed changes under these rules are included in the attached summary chart.

- 6. A reference to any study relevant to the rule that the agency reviewed and either proposes to rely on in its evaluation of or justification for the rule or proposes not to rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:**

Not applicable

- 7. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:**

The proposed rules will not diminish any previous grant of authority of a political subdivision of this state.

- 8. The preliminary summary of the economic, small business, and consumer impact:**

The rules as proposed are not expected to have significant, if any, economic impact. The purpose of this rule package is to clarify, update, and align processes relating to special education programs for children with disabilities, including the process of developing, reviewing, and implementing individualized education programs for these students. There is the possibility of a reduction in costs for consumers (schools and school districts) by including the ability to use optometrists as well as ophthalmologists in performing diagnostic assessments for students suspected of being visually impaired in establishing their eligibility to receive special education services. While R7-2-401(D)(5) adds the requirement that preschool programs for non-disabled students provided by public schools must conduct screening of students for possible disabilities, this is not expected to have any increased costs to the consumers as these services would have to otherwise be conducted at the kindergarten level.

- 9. The name and address of agency personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:**

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- 10. The time, place, and nature of the proceedings for the adoption, amendment, or repeal of the rule, or, if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rule:**

An oral proceeding on the proposed rulemaking is scheduled as follows:

Date: May 13, 2003

Time: 9:00 a.m.

Location: State Board of Education
1535 W. Jefferson, Room 417
Phoenix, AZ 85007

- 11. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class or rules:**

Not applicable

- 12. Incorporations by reference and their location in the rules:**

None

- 13. The full text of the rules follows:**

TITLE 7. EDUCATION

CHAPTER 2. STATE BOARD OF EDUCATION

ARTICLE 4. SPECIAL EDUCATION

Section

R7-2-401. Special Education Standards for Public Agencies Providing Educational Services

R7-2-402. Standards for Approval of Special Education Programs in Private Schools

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- R7-2-403. ~~Out of state Private Special Education Schools~~ Repealed
R7-2-404. Special Education Voucher Program Policies and Procedures
R7-2-408. Extended School Year Programs for Children with Disabilities

ARTICLE 4. SPECIAL EDUCATION

R7-2-401. Special Education Standards for Public Agencies Providing Educational Services

- A. For the purposes of this Article, the Individuals with Disabilities Education Act Amendments of 1997 (IDEA), 20 USC 1400 et seq. as reauthorized on June 4, 1997, and the IDEA 1997 regulations, 34 CFR ~~parts~~ 300.4 through 300.756 effective March 1999, are incorporated herein by reference. Copies of the incorporated material can be obtained from the U.S. Government Printing Office, Superintendent of Documents, P.O. Box 37195-7954, Pittsburgh, PA 15250 or the Arizona Department of Education, Exceptional Student Services, 1535 West Jefferson, Phoenix, Arizona 85007. This Article does not include any later amendments or additions to IDEA or IDEA regulations.
- B. Definitions. All terms defined in the regulations for the Individuals with Disabilities Education Act (IDEA) 1997 Amendments (34 CFR ~~Parts~~ 300.4 through 300.30, and 300.504) and A.R.S. § 15-761 are applicable, with the following additions:
1. "Accommodations" means the provisions made to allow a student to access and demonstrate learning. Accommodations do not substantially change the instructional level, the content or the performance criteria, but are made in order to provide a student equal access to learning and equal opportunity to demonstrate what is known. Accommodations shall not alter the content of the curriculum or a test, or provide inappropriate assistance to the student within the context of the test.
 2. "Adaptations" means changes made to the environment, curriculum, and instruction or assessment practices in order for a student to be a successful learner. Adaptations include accommodations and modifications. Adaptations are based on an individual student's strengths and needs.
 3. "Administrator" means the chief administrative official or designee (responsible for special education services) of a public education agency.
 4. "Audiologist" means a person who specializes in the identification and prevention of hearing problems and in the non-medical rehabilitation of those who have hearing impairments and who is licensed to practice audiology according to A.R.S. Title 36, Chapter 17, Article 4.
 5. "Boundaries of responsibility" means for:
 - a. A school district, the geographical area within the legally designated boundaries.
 - b. A public agency other than a school district, the population of students enrolled in a charter school or receiving educational services from a public agency.
 6. "Certified school psychologist" means a person holding a certificate from the Arizona State Board of Education issued pursuant to 7 A.A.C. 2, Article 6, in the area of school psychology.
 7. "Certified speech/language therapist" means a person holding a certificate from the Arizona State Board of Education issued pursuant to 7 A.A.C. 2, Article 6, and a license from the Arizona Department of Health Services as a speech/language pathologist in accordance with A.R.S. Title 36, Chapter 17, Article 4.
 8. "Department" means the Arizona Department of Education.
 9. "Doctor of medicine" means a person holding a license to practice medicine pursuant to Chapter 13 (medical doctor) or Chapter 17 (doctor of osteopathy) of Title 32, Arizona Revised Statutes.
 10. "Exceptional Student Services Division" or "ESS" means the Exceptional Student Services Division of the Arizona Department of Education.
 - ~~10-11.~~ "Evaluator" means a qualified person in a field relevant to the child's disability who administers specific and individualized assessment for the purpose of special education evaluation and placement.
 - ~~11-12.~~ "Full and individual evaluation" means procedures used in accordance with the IDEA to determine whether a child has a disability and the nature and extent of the special education and related services that the child needs. This evaluation includes:
 - a. A review of existing information about the child; and
 - b. A decision regarding the need for additional information; and
 - c. If necessary, the collection of additional information; and
 - d. A review of all information about the child and a determination of eligibility for special education services and needs of the child.
 - ~~12-13.~~ "Independent educational evaluation" means an evaluation conducted by a qualified evaluator who is not employed by the public education agency responsible for the education of the child in question.
 - ~~13-14.~~ "Interpreter" means a person trained to translate orally or in sign language in matters pertaining to special education identification, evaluation, placement, the provision of FAPE, or assurance of procedural safeguards for parents and students who converse in a language other than spoken English. Each student's IEP team determines the level of interpreter skill necessary for the provision of FAPE.

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- ~~14-15.~~“Language in which the student is proficient” means all languages including sign language systems.
- ~~15-16.~~“Licensed psychologist” means a person holding a license from the state of Arizona Board of Psychologist Examiners in accordance with A.R.S. Title 32, Chapter 19.1, Article 2.
- ~~16-17.~~“Modifications” means substantial changes in what a student is expected to learn and to demonstrate. Changes may be made in the instructional level, the content or the performance criteria. Such changes are made to provide a student with meaningful and productive learning experiences, environments, and assessments based on individual needs and abilities.
18. “Paraeducator” means a person employed to assist with the education of students but who is not certified to teach by the Arizona Department of Education. Alternate terms may include paraprofessional, teacher aide, instructional assistant or other similar titles.
- ~~17-19.~~“Private school” means any nonpublic educational institution where academic instruction is provided, including nonsectarian and parochial schools, that are not under the jurisdiction of the state or a public education agency. ~~“Private school” does not include home schools.~~
- ~~18-20.~~“Private special education school” means a private school that is established to serve primarily students with disabilities. The school may also serve students without disabilities.
- ~~19-21.~~“Psychiatrist” means a doctor of medicine who specializes in the study, diagnosis, treatment and prevention of mental disorders.
- ~~20-22.~~“Public education agency” or “PEA” means a school district, charter school, accommodation school, state supported institution, or other political subdivision of the state that is responsible for providing education to children with disabilities.
23. “Screening” means an informal or formal process of determining the status of a child with respect to appropriate developmental and academic norms. Screening may include observations, family interviews, review of medical, developmental, or education records, or the administration of specific instruments identified by the test publisher as appropriate for use as screening tools.
24. “Special education teacher” means a teacher holding a special education certificate from the Arizona Department of Education.
25. “Suspension” means a disciplinary removal from a child’s current placement that results in a failure to provide services to the extent necessary to enable the child to progress appropriately in the general curriculum and advance toward achieving the goals set out in the child’s IEP. The term does not include disciplinary actions or changes in placement through the IEP process if the child continues to receive the services described above. The term does include actions such as “in-school” and “going home for the rest of the day” removals if the child does not receive the services described above.

C. Public Awareness.

1. Each public education agency shall inform the general public and all parents, within the public education agency’s boundaries of responsibility, of the availability of special education services for students aged three through 21 years and how to access those services. This includes information regarding early intervention services for children aged birth through two years.
2. Each public education agency is responsible for public awareness within their enrolled population (including the families of enrolled students).
3. School districts are responsible for public awareness in private schools located within their geographical boundaries.

D. Child Identification and Referral.

1. Each public education agency shall establish, implement, and disseminate to its school-based personnel and all parents, within the public education agency boundaries of responsibility, written procedures for the identification and referral of all children with disabilities, aged birth through 21, including children with disabilities attending private schools and home schools, regardless of the severity of their disability.
2. Each public education agency will require all school-based staff to review the written procedures related to child identification and referral on an annual basis. The public education agency shall maintain documentation of staff review.
3. Procedures for child identification and referral shall meet the requirements of the IDEA and regulations, Title 15, Chapter 7, Article 4 and these rules.
4. The public education agency responsible for child identification activities is the school district in which the parents reside unless:
 - a. The student is enrolled in a charter school or public education agency that is not a school district. In that event, the charter school or public education agency is responsible for child identification activities;
 - b. The student is enrolled in a private school. In that event, the school district within whose boundaries the private school is located is responsible for child identification activities.
5. Identification (screening for possible disabilities) shall be completed within 45 calendar days after:
 - a. Entry of each preschool or kindergarten student and any student enrolling without appropriate records of screening, evaluation, and progress in school; or

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- b. Notification to the public education agency by parents of concerns regarding developmental or educational progress by their child aged three years through 21 years.
 6. Screening procedures shall include vision and hearing status and consideration of the following areas: cognitive or academic, communication, motor, social or behavioral, and adaptive development. Screening does not include detailed individualized comprehensive evaluation procedures.
 7. For a student transferring into a school, the public education agency shall review enrollment data and educational performance in the prior school. If there is a history of special education for a student not currently eligible for special education, or poor progress, the name of the student shall be submitted to the administrator for consideration of the need for a referral for a full and individual evaluation or other services.
 8. If a concern about a student is identified through screening procedures or through review of records, the public education agency shall notify the parents of the student of the concern within 10 school days and inform them of the public education agency procedures to follow-up on the student's needs.
 9. Each public education agency shall maintain documentation of the identification procedures utilized, the dates of entry into school or notification by parents made pursuant to subsection (D)(5)(~~b~~), and the dates of screening. The results shall be maintained in the student's permanent records in a location designated by the administrator. In the case of a student not enrolled, the results shall be maintained in a location designated by the administrator.
 10. If the identification process indicates a possible disability, the name of the student shall be submitted to the administrator for consideration of the need for a referral for a full and individual evaluation or other services. A parent or a student may request an evaluation of the student. If the parent of an identified student enrolled in a private school does not reside within the school district boundaries, the parent, with the assistance of the school district, shall notify the district in which the parents reside of the needs of the student and the residence school district will assume responsibility for follow-up.
 11. If, after consultation with the parent, the responsible public education agency determines that a full and individual evaluation is not warranted, the public education agency shall provide ~~Prior Written Notice~~ prior written notice and ~~Procedural Safeguards Notice~~ procedural safeguards notice to the parent ~~within 60 calendar days~~: in a timely manner.
- E. Evaluation/re-evaluation.
1. Each public education agency shall establish, implement, disseminate to its school-based personnel, and make available to parents within its boundaries of responsibility, written procedures for the initial full and individual evaluation of students suspected of having a disability, and for the re-evaluation of students previously identified as being eligible for special education.
 2. Procedures for the initial full and individual evaluation of children suspected of having a disability and for the re-evaluation of students with disabilities shall meet the requirements of IDEA and regulations, and state statutes and State Board of Education rules.
 3. The initial evaluation of a child being considered for special education, or the re-evaluation per a parental request of a student already receiving special education services, shall be completed as soon as possible, but shall not exceed 60 calendar days from receipt of informed written consent. If the public education agency initiates the evaluation, the 60-day period shall commence with the date of receipt of informed written consent and shall conclude with the date of the Multidisciplinary Evaluation Team (MET) determination of eligibility. If the parent requests the evaluation and the MET concurs, the 60-day period shall commence with the date that the written parental request was received by the public education agency and shall conclude with the date of the MET determination of eligibility.
 4. The 60-day evaluation period may be extended for an additional 30 days, provided it is in the best interest of the child, and the parents and PEA agree in writing to such an extension. Neither the 60 day evaluation period nor any extension shall cause a re-evaluation to exceed the timelines for a re-evaluation within three years of the previous evaluation.
 - ~~4.5.~~ The public education agency may accept current information about the student from another state, public agency, public education agency, or independent evaluator. In such instances, the Multidisciplinary Evaluation Team shall be responsible for reviewing and approving or supplementing an evaluation to meet the requirements identified in subsections ~~(E)(1) through (6)~~ (E)(1) through (7).
 - ~~5.6.~~ For the following disabilities, the full and individual initial evaluation shall include:
 - a. Emotional disability: verification of a disorder by a psychiatrist, licensed psychologist, or a certified school psychologist.
 - b. Hearing impairment:
 - i. An audiological evaluation by an audiologist; and
 - ii. An evaluation of communication/language proficiency.
 - c. Other health impairment: verification of a health impairment by a doctor of medicine.
 - d. Specific learning disability: a determination of whether the discrepancy between achievement and ability meet the public education agency criteria.
 - e. Orthopedic impairment: verification of the physical disability by a doctor of medicine.
 - f. Speech/language impairment: an evaluation by a certified speech/language therapist.

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- g. For students whose speech impairments appear to be limited to articulation, voice, or fluency problems, the written evaluation may be limited to:
 - i. An audiometric screening within the past calendar year;
 - ii. A review of academic history and classroom functioning;
 - iii. An assessment of the speech problem by a speech therapist; or
 - iv. An assessment of the student's functional communication skills.
 - h. Traumatic brain injury: verification of the injury by a doctor of medicine.
 - i. Visual impairment: verification of a visual impairment by an ophthalmologist or optometrist.
- ~~6-7.~~ The Multidisciplinary Evaluation Team shall determine, in accordance with the IDEA and regulations, whether the requirements of ~~(E)(5)(a) through (i)~~ (E)(6)(a) through (i) are required for a student's re-evaluation.
- F. Individualized Education Program (IEP).**
- 1. Each public education agency shall establish, implement, and disseminate to its school-based personnel, and make available to parents, written procedures for the development, implementation, review, and revision of IEPs.
 - 2. Procedures for IEPs shall meet the requirements of the IDEA and regulations, and state statutes and State Board of Education rules.
 - 3. Procedures shall include the incorporation of Arizona Academic Standards into the development of each IEP. IEP goals aligned with the Arizona Academic Standards shall identify the specific level within the Standard that is being addressed.
 - 4. Each IEP of a student with a disability shall stipulate the provision of instructional or support services by a special education teacher, certified speech/language therapist, and/or ancillary service provider(s), as appropriate.
 - ~~4-5.~~ Each student with a disability shall participate in the Arizona Student Assessment Program. The level at which a student will be assessed shall be documented on the student's IEP and shall be at least at the student's instructional level. The IEP shall also document instructional and assessment adaptations required by the student.
 - ~~5-6.~~ A meeting shall be conducted to review and revise each student's IEP at least annually, or more frequently if the student's progress substantially deviates from what was anticipated. The public education agency shall provide written notice of the meeting to the parents of the student to ensure that parents have the opportunity to participate in the meeting.
 - ~~6-7.~~ A parent or public education agency may request in writing a review of the IEP. Such review shall take place within 15 school days of the receipt of the request or at a mutually agreed upon time but not to exceed 30 school days.
- G. Least Restrictive Environment.**
- 1. Each public education agency shall establish, implement, and disseminate to its school-based personnel, and make available to parents, written procedures to ensure the delivery of special education services in the least restrictive environment as identified by IDEA and regulations, and state statutes and State Board of Education Rules.
 - 2. A continuum of services and supports for students with disabilities shall be available through each public education agency.
- H. Procedural Safeguards.**
- 1. Each public education agency shall establish, implement, and disseminate to its school-based personnel and parents of students with disabilities written procedures to ensure children with disabilities and their parents are afforded the procedural safeguards required by federal statute and regulation and state statute. These procedures shall include dissemination to parents information about the public education agency's and state's dispute resolution options.
 - 2. In accordance with the prior written notice requirements of IDEA, prior written notice must be issued in a timely manner following a decision by a PEA to propose to initiate or change, or refuse to initiate or change, the identification, evaluation, educational placement or the provision of FAPE to the child.
- I. Confidentiality.**
- 1. Each public education agency shall establish, implement, and disseminate to its personnel, and make available to parents, written policies and procedures to ensure the confidentiality of records and information in accordance with the IDEA, the Family Education Rights ~~to~~ and Privacy Act (FERPA) and regulations, and state statutes.
 - 2. Parents shall be fully informed about the requirements of IDEA 300.127, including an annual notice of the policies and procedures that the PEA must follow regarding storage, disclosure to a third party, retention, and destruction of personally identifiable information.
 - ~~2-3.~~ Upon receiving a written request, each public education agency shall forward special education records to any other public education agency in which a student is attempting to enroll. Records shall be forwarded within the time-frame specified in A.R.S. § 15-828(F). The public education agency shall also forward records to any other person or agency for which the parents have given signed consent.
- J. Preschool Programs.** Each public education agency responsible for serving preschool children with disabilities shall establish, implement, and disseminate to its personnel, and make available to parents, written procedures for:
- 1. The operation of the preschool program in accordance with federal statute and regulation, and state statute;
 - 2. The smooth and effective transition from the Arizona Early Intervention Program (AzEIP) to a public school preschool program in accordance with the agreement between the Department of Economic Security and the Department; and

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3. The provision of a minimum of 360 minutes of instruction in a program that operates at least three days a week.
- K.** Children in Private Schools. Each public education agency shall establish, implement, and disseminate to its personnel, and make available to parents, written procedures regarding the access to special education services to students enrolled in private schools as identified by the IDEA and regulations, and state statutes and State Board of Education rules.
- L.** State Education Agency Responsible for General Supervision and Obligations Related to and Methods of Ensuring Services.
1. The Department is responsible for the general supervision of services to children with disabilities aged 3 through 21 served through a public education agency.
 2. The Department shall ensure through fund allocation, monitoring, dispute resolution, and technical assistance that all eligible students receive a free appropriate public education in conformance with the IDEA ~~and~~ regulations, A.R.S. Title 15, Chapter 7, Article 4, and these rules.
- M.** Procedural Requirements Relating to Public Education Agency Eligibility.
1. Each public education agency shall establish eligibility for funding with the Arizona Department in accordance with the IDEA and regulations, and state statutes and with schedule and method prescribed by the Department.
 2. In the event the Department determines that a public education agency does not meet eligibility for funding requirements, the public education agency has a right to a hearing ~~before the state board of education~~ before an independent review panel of the Department before such funding is withheld.
 3. The Department may temporarily interrupt payments during any time period when a public education agency has not corrected deficiencies in eligibility for federal funds as a result of fiscal requirements of monitoring, auditing, complaint and due process findings.
 4. Each public education agency shall, on an annual basis, determine the number of children within each disability category who have been identified, located, evaluated, and/or receiving special education services. This includes children residing within the boundaries of responsibility of the public education agency who have been placed by their parents in private schools or who are home schooled.
- N.** Public Participation.
1. Each public education agency shall establish, implement, and disseminate to its personnel, and make available to parents, written procedures to ensure that, prior to the adoption of any policies and procedures needed to comply with federal and state statutes and regulations, there are:
 - a. Public hearings,
 - b. Notice of the hearings, and
 - c. An opportunity for comment available to the general public, including individuals with disabilities and parents of children with disabilities
 2. This requirement does not pertain to day-to-day operating procedures.
- O.** Suspension and Expulsion.
1. Each public education agency shall establish, implement, and disseminate to its personnel, and make available to parents, written procedures for the suspension and expulsion of students with disabilities.
 2. Each public education agency shall require all school-based staff involved in the disciplinary process to review the policies and procedures related to suspension and expulsion on an annual basis. The public education agency shall maintain documentation of staff review.
 3. Procedures for such suspensions and expulsions shall meet the requirements of the IDEA and regulations, and state statutes.
- R7-2-402. Standards for Approval of Special Education Programs in Private Schools**
- A.** Definitions. All terms defined in the regulations for the Individuals with Disabilities Education Act (IDEA) 1997 Amendments (34 CFR ~~parts~~ 300.4 through 300.30), A.R.S. § 15-761, and ~~state board of education~~ State Board of Education rule R7-2-401 are applicable.
- B.** No student may be placed by a public education agency in a private school special education school program unless the facility has been approved as meeting the standards as outlined in this rule, and the public education agency is unable to provide satisfactory education and services through its own facilities and personnel.
- C.** In order for a private special education school to be approved by the Department for the purpose of contracting with a public education agency, the private facility shall:
1. Provide special education instructional programs for students with disabilities that are at least comparable to those provided by the public schools of Arizona and meet the requirements of IDEA.
 2. Provide the following documentation:
 - a. Policies and procedures based on IDEA and state statutes;
 - b. Curriculum that is aligned with the Arizona Academic Standards;
 - c. A completed application;
 - d. Copies of all teacher and related service personnel certifications and licenses; and
 - e. If applicable, a copy of North Central Accreditation.

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3. Provide ~~certified~~ certificated special education teachers in each classroom to implement the IEPs of those students assigned to that classroom.
4. Provide related services to meet the needs of the students as indicated on their IEPs.
5. Provide administration personnel such as head teacher, principal, or other administrator ~~certificated~~ certificated in an administrative area or experienced and ~~certified~~ certificated in the appropriate area of special education.
6. Provide an education that meets the standards that apply to education provided by the public education agency.
7. Maintain student records in accordance with the statutory requirements.
8. Accept all responsibilities concerning instructional programs to the disabled student and parent or guardian that are required of the public schools of Arizona. Ultimate responsibility for any student under contract in a private special education school rests with the public education agency contracting for the students' education.
9. Administer all required statewide assessments to those students placed in the private facility by a PEA or through the educational voucher system.
- ~~9-10.~~ Maintain adequate liability insurance.
- ~~10-11.~~ Maintain an accounting system and budget which includes the costs of operation, maintenance, transportation, and capital outlay, and which is open to review upon request.
- ~~11-12.~~ Maintain an attendance reporting system that provides public education agencies and the Department with required information.
- ~~12-13.~~ Provide notification to contracting public education agencies and the Department of any changes in staff or deletion of programs within 10 school days of the change or deletion.
14. Provide notification to the contracting PEA of any intent to discontinue, suspend, or terminate services to a student for longer than 10 days. Services to the student must be continued by the private school until an IEP meeting with the PEA is convened to determine an appropriate alternative placement. The PEA must be given up to 10 school days to arrange for the transition of the student after the IEP determination.
- ~~13-15.~~ Permit onsite evaluation of the program by the Department or its designees, and the representatives of the public education agencies.
- ~~14-16.~~ Request approval to contract with public education agencies from the Department in accordance with the prescribed procedures.

R7-2-403. Out of state Private Special Education Schools Repealed

In order for a public school district ("LEA") in Arizona to contract with an out of state private special education school, the following steps must be completed:

1. The LEA must submit to the Division of Special Education a request for approval (Form ADE 35-301) stating:
 - a. ~~The name of private out of state facility.~~
 - b. ~~The name of child for whom out of state special education placement is contemplated and area of exceptionality.~~
 - c. ~~An affidavit signed by the LEA authorized agent verifying that:~~
 - i. ~~The child for whom out of state placement is requested is diagnosed as qualifying for physically handicapped, visually handicapped, hearing handicapped, trainable mentally handicapped, seriously emotionally handicapped or multihandicapped pursuant to A.R.S. § 15-761.~~
 - ii. ~~No program exists within the LEA for the exceptionality of the specific child in the request.~~
 - iii. ~~No program can feasibly be instituted and the reason.~~
 - iv. ~~The out of state placement is the least expensive adequate alternative.~~
 - d. ~~Subject to R7-2-401(A)(2), the Division of Special Education shall approve all out of state special education placements after verification that:~~
 - i. ~~No special education services exist in the state which are appropriate for the specific handicapped child.~~
 - ii. ~~The out of state placement is the least expensive adequate alternative available to the LEA.~~
2. ~~Records in the Division of Special Education must indicate that the out of state private special education school is approved by the State Department of Education in the state in which it is located to educate handicapped children in the category requested.~~
3. ~~Approval by the Division of Special Education is issued only for individual children and for one school year if the conditions in this Section have been met.~~

R7-2-404. Special Education Voucher Program Policies and Procedures

- A. Institutional vouchers. ~~An educational evaluation will determine the eligibility for special education institutional voucher funding for students residing in and attending special education programs in 1 of the SSI's, or those residing in an SSI and attending an LEA special education program. Students residing and attending special education programs at the Arizona Schools for the Deaf and the Blind (ASDB) or the Arizona State Hospital (ASH) or students attending special education day programs provided by ASDB may be eligible for special education institutional voucher funding.~~
 1. Eligibility
 - a. ~~Those eligible for a special education institutional voucher are~~

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- ~~i. Students, ages 5-21, who reside in, and attend special education programs at 1 of the Arizona training programs for the mentally retarded at Coolidge, Phoenix, and Tucsos, or Arizona State School for the Deaf and the Blind, or who attends day school programs within 1 of the 4 institutions (institution submits voucher application).~~
 - ~~ii. Students, ages 5-21, who reside in 1 of the 4 SSI's and attend an LEA special education program (LEA submits voucher application).~~
 - ~~b. Those not eligible for a special education institutional voucher are:~~
 - ~~i. Students who do not reside in 1 of the training programs or Arizona State School for the Deaf and the Blind, or who do not attend a day school program within these institutions.~~
 - ~~ii. Students placed in group homes by the Department of Economic Security/Bureau of Mental Retardation. These students are eligible for certificates of educational convenience if the child's parents are not legal residents of the LEA in which the group home is located.~~
 - ~~a. Student shall be between the ages of 3 and 22 years.~~
 - ~~b. Student shall have a recognized disability as documented by a current educational evaluation. Evaluations shall be completed by the institution or the student's home school district (HSD), as determined by a multidisciplinary evaluation team (MET).~~
 - ~~c. Student shall have a current individualized education program (IEP) identifying the placement as the most appropriate and least restrictive educational environment.~~
- ~~2. Evaluations. All educational evaluations are to be conducted by the SSI of residence or the LEA making application for the institutional voucher. The evaluation must be submitted with the application for special education institutional voucher. No voucher application can be processed without accompanying evaluative materials.~~
- ~~3.2. Institutional voucher application/approval~~
 - ~~a. The application for special education institutional voucher (ADE 35-108) is completed by the SSI or the LEA and is forwarded, along with the educational evaluation, to the Division of Special Education, Department of Education. The SSI or LEA must provide all student information requested on the institutional voucher application.~~
 - ~~b. Following receipt of the application and evaluative material by the Division of Special Education, the materials are reviews. After approval/disapproval of the institutional voucher application has been determined, the application is signed by the Director of Program Services, Division of Special Education, and notification is sent to the SSI or LEA providing the special education program. Institutional voucher payment will not be made for attendance prior to voucher approval date.~~
 - ~~e. A student identification number is assigned by the Division of Special Education to each approved institutional voucher student and this number will be used by the SSI or LEA when completing the claim for payment form (ADE 35-109) and the special education census form (ADE 35-102).~~
 - ~~d. The institutional voucher application procedure must be repeated each school year. If a student is transferred from 1 SSI educational program to another during any school year, or if a student transfers from an SSI program to a special education program in an LEA, a 2nd institutional voucher must be submitted to the Division of Special Education.~~
 - ~~e. Evaluations and reevaluations to determine continued placement of children receiving institutional voucher funds will be conducted by the SSI or the LEA making application for the institutional voucher.~~
 - ~~a. Applications for special education institutional vouchers shall be completed by the institution and submitted to the Exceptional Student Services Division of the Department of Education. The institution shall provide all student information requested on the institutional voucher application.~~
 - ~~b. Institutions shall sign a Statement of Assurance guaranteeing their maintenance of and ability to produce all supporting documentation for each application.~~
 - ~~c. Institutional voucher applications shall be reviewed and approved or disapproved by the voucher unit manager. Applications that are disapproved may be corrected and resubmitted. Institutional voucher payments will not be made for student attendance prior to voucher approval date.~~
 - ~~d. Voucher identification numbers shall be assigned for each new student approval, and shall be used by the institution to complete claims for payment and the special education census form.~~
 - ~~e. Institutional vouchers are approved for the current year only; therefore the application process shall be repeated each school year for each student.~~
 - ~~f. Institutions shall report any changes in student status, including withdrawals, transfers, current evaluation dates and changes in disability categories to the Exceptional Student Services Division of the Department of Education. Changes shall be submitted within 10 days of the occurrence.~~
- ~~4. Student withdrawal~~
 - ~~a. When an approved special education institutional voucher student is withdrawn or terminated from the SSI or LEA named on the approved institutional voucher application, a notice of student withdrawal (ADE 35-110) must be completed by the facility and forwarded to the Division of Special Education so the withdrawal/termina-~~

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tion may be recorded.

- b. ~~This withdrawal procedure pertains to students withdrawn from programs and to those transferred from the SSI special education program to another SSI or to an LEA special education program.~~

5.3. Institutional voucher claim for payment

- a. ~~The special education institutional voucher claim for payment form (ADE 35-109) is completed at the end of each calendar month by the SSI or LEA providing special education services, showing names of approved institutional voucher students, assigned student identification numbers, entry dates, withdrawal dates when applicable, and monthly charges.~~

- b. ~~The claim for payment forms are signed by the SSI or LEA administrator and returned to the Division of Special Education for processing by the Division of Business and Finance.~~

- a. The special education institutional voucher claim for payment form shall be completed by the institution at the end of each calendar month. The claim shall be submitted in accordance with procedures established by the School Finance Division of the Department of Education. include service site, approved student names, assigned identification numbers and entry and withdrawal dates when applicable.

- b. Claims for payment forms shall be signed by the institution's administrator and submitted to the School Finance Division of the Department of Education.

6.4. Special education census.

- a. ~~All institutional voucher students shall be reported on the special education census form in accordance with procedures established by the School Finance Division of the Department of Education. (ADE 35-102). Instructions found on the back of the form shall be followed, with the following exceptions:~~

- i. ~~The student number to be used for institutional voucher students when entering their names on the census form is the student identification number assigned to approved voucher applications.~~

- ii. ~~SSI's will leave column 9 (district of residence) blank.~~

- iii. ~~LEA's will place in column 9 (district of residence) the following county-type-district number assigned to the state institution where the student resides:~~

~~Arizona State School for the Deaf and the Blind: 00-12-03~~

~~Arizona Training Program at Coolidge: 00-12-04~~

~~Arizona Training Program at Tucson: 00-12-05~~

~~Arizona Training Program at Phoenix: 00-12-06~~

7.5. Review of placement

- a. ~~The application process must be implemented in the summer for each student expected to continue in approved educational placement at the beginning of the next school year. Just as submission of an institutional voucher application is an annual event, so too is review of placement to determine continued eligibility for the institutional voucher. In most cases this will not involve actual testing, but rather a record review, supplementary testing, or review of educational progress. The responsibility for the summer review of placement rests with the SSI or LEA making application for the institutional voucher. Voucher students must have their progress reviewed at least once each semester by LEA staff.~~

- a. It is the responsibility of the HSD to review student progress at least once a semester.

- b. The IEP may be completed by the institution but is ultimately the responsibility of the student's HSD to ensure that it is reviewed and revised annually.

- c. It is the responsibility of the HSD to ensure that re-evaluations are conducted on a tri-annual basis or more frequently as needed.

- B. ~~Permanent vouchers. Children placed by the Department of Economic Security, the Juvenile Courts, or the Department of Corrections in private residential treatment facilities for purposes of special education must be educationally evaluated to determine their eligibility for a permanent special education voucher in the facility in which he/she is to be placed.~~

Residential vouchers: Students placed in private residential treatment facilities (PRF) may be eligible for residential voucher funding for the educational portion of the placement.

I. Eligibility

- a. ~~Those eligible for permanent special education vouchers are:~~

- i. ~~Children, ages 5-21, who are to be placed in private residential facilities by the Department of Economic Security, the Juvenile Courts, or Department of Corrections.~~

- ii. ~~Children suspected of or having been confirmed to have a handicapping condition requiring special education and related services.~~

- iii. ~~Children anticipated to be attending special education programs in such facilities as are approved by the Division of Special Education and licensed as a residential treatment facility by the DES.~~

- b. ~~Those not eligible for permanent special education vouchers are:~~

- i. ~~Children placed by the Bureau of Indian Affairs in private residential facilities approved as a private special education school.~~

- ii. ~~Children placed and funded by Champus.~~

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- iii. ~~Children privately placed in private special education facilities.~~
- iv. ~~Children who reside in private residential treatment facilities but attend any type of public school program.~~
- v. ~~Children attending special education programs in private facilities which are not approved by the Division of Special Education.~~
- vi. ~~Children attending a regular education program in private or public schools.~~
- e. ~~All children must be evaluated by the placing agency as provided in these rules.~~
- 1. Eligibility Criteria
 - a. Students shall be enrolled in and eligible for educational services from a Public Education Agency (PEA).
 - b. Placement shall be made by one of the State Placing Agencies. They are the Department of Economic Security (DES), the Department of Health Services (DHS), the Administrative Office of the Courts (AOC), or the Department of Juvenile Corrections (ADJC).
 - c. Residential facilities shall be licensed by the Department of Health Services or Department of Economic Security and approved by the Department of Education for the specific educational needs of each student placed there.
 - d. The following conditions invalidate eligibility:
 - i. Placement by any agency other than those noted in subsection (B)(1)(b) including but not limited to the Bureau of Indian Affairs, a tribe not under contract with DHS, Arizona Health Care Cost Containment System (AHCCCS), private insurance, or parents.
 - ii. Placement in facilities not appropriately licensed by DHS or DES or approved by the Department of Education.
 - iii. Student attendance at a PEA while residing in a residential facility.
 - e. Eligible students are divided into three categories:
 - i. Non-special education (NSE): Students not eligible for special education services who are placed by a State Placing Agency for their care, safety, or treatment.
 - ii. Care special education (CSE): Students eligible for special education services who are placed by a State Placing Agency for their care, safety, or treatment.
 - iii. Residential special education (RSE): Students requiring residential placement to benefit from educational programming who are placed by an IEP team.
- 2. Voucher application/approval
 - a. ~~Upon receipt of the educational evaluation report, the referral agent (Department of Economic Security, Juvenile Courts or Department of Corrections) determines from the educational diagnosis the most appropriate special education and residential placement for the child. The private facility must be approved by the Division of Special Education. Twice annually each placing agency is sent an updated list of these approved private facilities.~~
 - b. ~~An application for permanent special education voucher (ADE 35-103) is completed by the placing agent and forwarded to the Division of Special Education. The placing agent must provide all student information required by this form.~~
 - e. ~~Upon receipt of the 4 components contained in each child's voucher application packet (referral form, evaluation, evaluation summary sheet, and voucher application), a review is conducted by the Division of Special Education to determine if the designated special education placement is appropriate.~~
 - d. ~~After approval/disapproval of the voucher application has been determined, the application is signed by the Director of Program Services, Division of Special Education, and notification is sent to the placing agent and to the private facility. Voucher payment will not be made for attendance prior to voucher approval date.~~
 - e. ~~A student identification number is assigned by the Division of Special Education to each approved voucher student and this number will be used by the private facility when completing the special education census form (ADE 35-102) and the claim for payment form (ADE 35-105).~~
 - f. ~~The voucher application procedure must be repeated each school year. If a student is transferred from 1 approved private facility to another during any school year, a 2nd voucher application must be submitted to the Division of Special Education.~~
 - g. ~~As special education vouchers are approved by the Division of Special Education, a copy of the approval memo will be sent to the student's school district of residence. The district of residence for children placed by state agencies is the district in which the private school is located.~~
 - h. ~~Voucher students must have their progress reviewed at least once each semester by LEA staff to see which are eligible to attend LEA educational programs. Evaluations and reevaluations to determine continued placement will be conducted by evaluators approved by the Department of Economic Security, and the LEA is responsible only for the reviews of progress.~~
- 2. Voucher application/approval process. The process differs depending on category.
 - a. NSE and CSE options:
 - i. When a placement decision is reached, the State Placing Agency (SPA) shall complete a SPA Application for Voucher Funding, and forward a copy to the student's Home School District (HSD) for appropriate signatures within five days of placement.

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- ii. Upon placement, copies of the completed voucher shall be provided to the PRF and the Exceptional Student Services of the Department of Education (ESS).
 - iii. Upon receipt and review of the application and verification of facility approval, the SPA application will be approved for the initial 60 days of placement. An approval memo is sent to the PRF and the HSD. The Exceptional Student Services shall assign a student identification number to each approved voucher student. This number shall be used by the private facility when completing the special education census form and the claim for payment form.
 - iv. The HSD shall submit the HSD Application for Education Voucher Funding packet and submit it to the Exceptional Student Services of the Department of Education. Appropriate documentation of eligibility for special education and provision of services, if applicable, shall be included.
 - v. The HSD voucher application packet shall be reviewed and approved or disapproved by the voucher unit manager. Applications that are disapproved may be corrected and resubmitted. Approvals are granted from the date of receipt through the end of the school year. An approval memo is sent to the PRF and the HSD.
 - vi. If the HSD cannot complete the requirements for the HSD application packet within the initial 60-day approval period, they shall submit an Application For Extension Of Education Voucher Funding.
 - b. RSE option: The HSD shall follow statutory requirements and procedures agreed upon by the ADE, DHS, and DES when considering placement in a PRF for educational reasons. If a need for such a placement is determined, the HSD shall complete and submit the HSD Application for Education Voucher Funding packet to the ESS. Documentation of the necessity for PRF placement, measurable exit criteria, and a reintegration plan shall be required.
3. Student withdrawal
- a. ~~Whenever an approved special education voucher student is withdrawn from the facility named on the approved voucher application, a notice of student withdrawal (ADE 35-106) must be completed by the private facility and forwarded to the placing agent for signature verifying entry and withdrawal dates.~~
 - b. ~~The placing agent will return the withdrawal form to the Division of Special Education so the withdrawal may be recorded. These withdrawal procedures pertain to students dropped from programs and to those transferred from 1 approved private facility to another by the placing agency.~~
3. Changes in placement/Discharge:
- a. If a student is discharged or is absent without leave for more than ten days from the PRF; the facility shall notify the State Placing Agency, Home School District and the Exceptional Student Services Division of the Department of Education in writing within five days.
 - b. Students returning to a facility after a discharge or students transferred from one facility to another require a new SPA voucher application.
 - c. Students placed under the RSE option shall not be discharged without the consent of the IEP team.
4. Voucher claim for payment
- a. ~~The special education voucher claim for payment form (ADE 35-105) is completed at the end of each calendar month by the private facility, showing the names of approved voucher students, assigned I.D. numbers, entry dates, withdrawal dates when applicable, and tuition amounts. which includes the names of approved voucher students, assigned I.D. numbers, entry dates, withdrawal dates (when applicable), and tuition amounts, shall be completed at the end of each calendar month by the private facility. A special education voucher claim for payment shall be submitted in accordance with procedures established by the School Finance Division of the Department of Education.~~
 - b. ~~These claim forms are signed by the school administrator and returned to the Division of Special Education Exceptional Student Services for processing by the Division of Business and Finance. Claim for payment shall be submitted to the School Finance Division of the Department of Education.~~
5. Special education census.
- a. ~~A special education census form (ADE 35-102) shall be completed for all voucher students in accordance with procedures established by the School Finance Division of the Department of Education. Instructions are found on the back of the census form, but there are 2 exceptions pertaining to voucher students:~~
 - i. ~~The student number to be used on the census form is the student I.D. number that appears on the approved voucher application.~~
 - ii. ~~Do not use the county type district numbers of the LEA in which you are located for column 9 (district of residence). Use the following information in completing column 9:~~

If the 1st 2 digits of student I.D. number are	Place these num- bers in column 9 (district of residence): city/type/dist 10.....00-31-10
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20.....00-31-20

30.....00-31-30

6. ~~Reevaluation. The process outlined in (B)(1) and (2) must be implemented in the summer for each child expected to continue in his/her approved educational placement at the beginning of the next school year. Just as submission of a voucher application is an annual event, so too is reevaluation to determine continued eligibility for the voucher. In most cases this will not involve actual testing but rather a record review, interview, or supplementary assessment.~~
6. Review and continuation of placement:
- a. The Home School District (HSD) shall regularly monitor the progress of students, ensure the annual review and revision of IEPs, and complete three-year re-evaluations as applicable.
 - b. Voucher approval is for one school year only. Students remaining in an PRF from the end of one school year to the beginning of the next year require new voucher applications. Prior to the beginning of the new school year, the PRF shall submit an Application for Continuing Voucher funding, signed by both the SPA and the HSD. For a student who is eligible for special education services, a current IEP shall accompany the continuing application if the IEP has been reviewed or revised after the original voucher was approved.

R7-2-408. Extended School Year Programs for Children with Disabilities

- A. "Extended school year" (ESY) shall be as defined in A.R.S. § 15-881.
- ~~B.~~ Eligibility. Eligibility shall be determined by the Individualized Education Program (IEP) Team. Criteria for determining eligibility in an extended school year program shall be:
 - 1. ~~Regression-recoupment factors;~~
 - 2. ~~Critical learning stages;~~
 - 3. ~~Least restrictive environment considerations;~~
 - 4. ~~Teacher and parent interviews and recommendations;~~
 - 5. ~~Data-based observations of the pupil;~~
 - 6. ~~Considerations of the pupils' previous history; and~~
 - 7. ~~Parental skills and abilities.~~
- ~~C.~~ The extended school year program is not compulsory and is not required for all students with a disability.
- ~~B.~~ Eligibility. Eligibility shall be determined by the Individualized Education Program (IEP) Team. Criteria for determining eligibility in an extended school year program shall be as defined in A.R.S. § 15-881.
- ~~C.~~ For a student with a disability currently enrolled in special education, eligibility for ESY services shall be determined no later than 45 calendar days prior to the last day of the school year.
- ~~D.~~ The availability of an extended school year program is required for all students for whom the IEP team has determined that it is necessary in order to ensure a free appropriate public education. Student participation in an ESY program is not compulsory. ESY services are not required for all students with a disability.
- ~~D.~~ E. Factors that are inappropriate for consideration. Eligibility for participation shall not be based on need or desire for any of the following:
 - 1. A day care or respite care service for students with a disability;
 - 2. A program to maximize the academic potential of a student with a disability; and
 - 3. A summer recreation program for students with a disability.

NOTICE OF PROPOSED RULEMAKING

TITLE 7. EDUCATION

CHAPTER 2. STATE BOARD OF EDUCATION

PREAMBLE

- | | |
|------------------------------------|---------------------------------|
| <u>1. Sections Affected</u> | <u>Rulemaking Action</u> |
| R7-2-611 | Amend |
| R7-2-617 | Amend |

- 2. The specific authority for rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):**

Authorizing statute: A.R.S. § 15-203(A)
Implementing statute: A.R.S. § 15-203(A)(14)

- 3. A list of all previous notices appearing in the Register addressing the proposed rule:**

Notice of Rulemaking Docket Opening: 8 A.A.R. 4426, October 18, 2002

- 4. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:**

Name: Christy Farley
Executive Director, State Board of Education

Address: 1535 W. Jefferson, Room 418
Phoenix, AZ 85007

Telephone: (602) 542-5057

Fax: (602) 542-3046

E-mail: cfarley@ade.az.gov

- 5. An explanation of the rule, including the agency's reasons for initiating the rule:**

The State Board of Education is seeking amendments to R7-2-611 and R7-2-617 to address three critical issues that are currently addressed by emergency rules. The issues raised during the emergency rulemaking process are still relevant and would exist if permanent rules are not adopted. The first issue is that the Board would be unable to issue Provisional Vocational Education Teaching Certificates. The second issue would be the Board's inability to renew the Provisional Education Teaching Certificates for current certificate holders. The third issue that would occur is that many individuals with an existing Provisional Vocational Education Teaching Certificate would not be able to convert that certificate to a Standard Vocational Education Teaching Certificate under the existing rules established in 1998.

The amendments contained in this rule package address the prior issues raised by the Attorney General's Office with regard to the rule package that was submitted in 2000 and subsequently rejected. This rule package maintains a proposal for various academic and professional routes to obtain a teaching certificate in the various disciplines of career and technical education while instituting uniformity in the requirements in the different disciplines as suggested by the Attorney General's Office.

The Attorney General's office rejected the vocational education rules for several reasons. (1) The 2000 Rules lacked uniformity across certificates. (2) The 2000 Rules also lacked definitions for terms that were used throughout the Rules. (3) Another major issue identified by the Attorney General's Office was lack of specificity in reference to industry recognized occupational certifications or licenses. (4) Definitions used for subject matter and verified experience were also missing and throughout the vocational education certificates. (5) The options for each of the vocational certificates were not uniform or aligned. (6) The teacher evaluation requirement lacked clarity.

- 6. A reference to any study relevant to the rule that the agency reviewed and either proposes to rely on in its evaluation of or justification for the rule or proposes not to rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:**

Not applicable

- 7. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:**

The proposed rules will not diminish any previous grant of authority of a political subdivision of this state.

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8. The preliminary summary of the economic, small business, and consumer impact:

The proposed amendments in this rule package will have no negative economic, small business or consumer impact. The economic and consumer impact is expected to be positive by allowing: (1) existing certificate holders to continue in the classroom by providing the mechanism to renew their Provisional Vocational Education Teaching Certificate; (2) conversion of a Provisional Vocational Education Teaching Certificate to a Standard Vocational Education Teaching Certificate; and (3) additional vocational education teacher candidates will be allowed to obtain a Vocational Education Certificate. Each of the individuals listed in the above groups will experience economic benefit.

Teachers seeking initial certification will benefit by having multiple routes to obtaining certification. Statewide, students, schools, and school districts will benefit by having a continuing stream of qualified teachers available. Neither the State Board of Education, the Department of Education, nor any school districts or other political subdivisions will be subject to additional costs by these rules. There will be no effect on small business or on state revenues, and there is not a less-intrusive method for accomplishing the goals achieved by these rules.

9. The name and address of agency personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:

Name: Christy Farley
Executive Director, State Board of Education

Address: 1535 W. Jefferson, Room 418
Phoenix, AZ 85007

Telephone: (602) 542-5057

Fax: (602) 542-3046

E-mail: cfarley@ade.az.gov

10. The time, place, and nature of the proceedings for the adoption, amendment, or repeal of the rule, or, if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rule:

An oral proceeding on the proposed rulemaking is scheduled as follows:

Date: May 12, 2003

Time: 9:00 a.m.

Location: State Board of Education
1535 W. Jefferson, Room 417
Phoenix, AZ 85007

11. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class or rules:

Not applicable

12. Incorporations by reference and their location in the rules:

None

13. The full text of the rules follows:

TITLE 7. EDUCATION

CHAPTER 2. STATE BOARD OF EDUCATION

ARTICLE 6. CERTIFICATION

Section

R7-2-611. ~~Vocational Career and Technical Education~~ Teaching Certificates
R7-2-617. Renewal Requirements

ARTICLE 6. CERTIFICATION

R7-2-611. ~~Vocational Career and Technical Education~~ Teaching Certificates

- A.** Except as noted, all certificates are subject to the general certification provisions in R7-2-607 and the renewal requirements in R7-2-617.
- B.** ~~Provisional Vocational Certificate — Agriculture — grades K-12~~
1. ~~The certificate is valid for two years.~~
 2. ~~The requirements are:~~
 - a. ~~A Bachelor's degree;~~
 - b. ~~Eighteen semester hours of courses in agriculture;~~

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- e. Two thousand clock hours of verified employment in agriculture in the last six years; and
 - d. A valid Class 1 or Class 2 fingerprint clearance card.
 - 3. The holder of this certificate shall receive a passing score on the professional knowledge portion of the Arizona Teacher Proficiency Assessment before the 2nd renewal of the provisional vocational certificate or the issuance of the standard vocational certificate.
- C.** ~~Standard Vocational Certificate – Agriculture – grades K-12~~
- 1. The certificate is valid for six years.
 - 2. The requirements are:
 - a. Qualification for the provisional vocational certificate – Agriculture;
 - b. Thirty semester hours of courses in agriculture with 5 semester hours of courses in 3 of the following areas: animal science; plant science including soils; agricultural engineering; economics or agricultural economics; or agricultural resources;
 - c. Eighteen semester hours of courses, to include the following areas: methods of teaching agriculture, curriculum and materials of instruction, and practicum in agriculture in grades K-12. Two years of experience teaching agriculture in grades K-12 may substitute for the practicum; and
 - d. A valid Class 1 or Class 2 fingerprint clearance card.
- D.** ~~Provisional Vocational Certificate – Business – grades K-12~~
- 1. The certificate is valid for two years.
 - 2. The requirements are:
 - a. A Bachelor's degree;
 - b. Thirty semester hours of business and office courses;
 - c. Six semester hours of vocational education courses;
 - d. Two thousand clock hours of verified employment in business/office occupations or a practicum in business/office occupations in the past six years; and
 - e. A valid Class 1 or Class 2 fingerprint clearance card.
 - 3. The holder of this certificate shall receive a passing score on the professional knowledge portion of the Arizona Teacher Proficiency Assessment before the 2nd renewal of the provisional vocational certificate or the issuance of the standard vocational certificate.
- E.** ~~Standard Vocational Certificate – Business – grades K-12~~
- 1. The certificate is valid for six years.
 - 2. The requirements are:
 - a. Qualification for the provisional vocational certificate – Business;
 - b. Twenty one semester hours of vocational education courses, to include methods of teaching business and principles of vocational education; and
 - c. A valid Class 1 or Class 2 fingerprint clearance card.
- F.** ~~Provisional Vocational Certificate – Family and Consumer Sciences – grades K-12~~
- 1. The certificate is valid for two years.
 - 2. The requirements are:
 - a. A Bachelor's degree;
 - b. Thirty semester hours of courses in family and consumer sciences with one course in each of the following: life span development; family or human relations; clothing and textiles or merchandising; nutrition, health or food preparation; facility management, housing or interior design; consumer economics or family resources; culinary arts; and practicum in child care or elder care;
 - c. Two thousand clock hours of verified employment in family and consumer sciences or 5 semester hours of practicum in family and consumer sciences, completed in the last six years; and
 - d. A valid Class 1 or Class 2 fingerprint clearance card.
 - 3. The holder of this certificate shall receive a passing score on the professional knowledge portion of the Arizona Teacher Proficiency Assessment before the 2nd renewal of the provisional vocational certificate or the issuance of the standard vocational certificate.
- G.** ~~Standard Vocational Certificate – Family and Consumer Sciences – grades K-12~~
- 1. The certificate is valid for six years.
 - 2. Applicants shall meet all of the requirements in one of the following options:
 - a. Option A:
 - i. Qualification for the provisional vocational certificate – Family and Consumer Sciences;
 - ii. Eighteen semester hours of courses in vocational education to include methods of teaching family and consumer sciences; and
 - iii. A valid Class 1 or Class 2 fingerprint clearance card.
 - b. Option B:
 - i. A Bachelor's degree;

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- ii. Six thousand clock hours of verified employment in family and consumer sciences, completed in the last six years;
 - iii. Fifteen semester hours of courses in vocational education, to include methods of teaching family and consumer sciences; and
 - iv. A valid Class 1 or Class 2 fingerprint clearance card.
- H.** ~~Provisional Vocational Certificate – Health Occupations – grades K-12~~
- 1. ~~The certificate is valid for two years.~~
 - 2. ~~The requirements are:~~
 - a. ~~A valid Class 1 or Class 2 fingerprint clearance card;~~
 - b. ~~A professional license in a health occupation and 6,000 clock hours of verified employment in a health occupation in the last six years; or~~
 - c. ~~A Bachelor's degree in a biological science, health science, or physical science; 2,000 clock hours of verified employment in the area to be taught, completed in the past six years; and a professional license in a health occupation.~~
 - 3. ~~The holder of this certificate shall receive a passing score on the professional knowledge portion of the Arizona Teacher Proficiency Assessment before the 2nd renewal of the provisional vocational certificate or the issuance of the standard vocational certificate.~~
- I.** ~~Standard Vocational Certificate – Health Occupations – grades K-12~~
- 1. ~~The certificate is valid for six years.~~
 - 2. ~~The requirements are:~~
 - a. ~~Qualification for the provisional vocational certificate – Health Occupations;~~
 - b. ~~Twelve semester hours of vocational education courses, to include the following: methods of teaching, curriculum development, and evaluation; and~~
 - c. ~~A valid Class 1 or Class 2 fingerprint clearance card.~~
- J.** ~~Provisional Vocational Certificate – Industrial Technology – grades K-12~~
- 1. ~~The certificate is valid for two years.~~
 - 2. ~~The requirements are:~~
 - a. ~~A valid Class 1 or Class 2 fingerprint clearance card.~~
 - b. ~~A Bachelor's degree and 2,000 clock hours of verified employment in the area to be taught; or~~
 - c. ~~Six thousand clock hours of verified employment in the area to be taught. A valid industry recognized occupational certification or license may substitute for the employment.~~
 - 3. ~~The holder of this certificate shall receive a passing score on the professional knowledge portion of the Arizona Teacher Proficiency Assessment before the 2nd renewal of the provisional vocational certificate or the issuance of the standard vocational certificate.~~
- K.** ~~Standard Vocational Certificate – Industrial Technology – grades K-12~~
- 1. ~~The certificate is valid for six years.~~
 - 2. ~~The requirements are:~~
 - a. ~~Qualify for the provisional vocational certificate – Industrial Technology;~~
 - b. ~~Fifteen semester hours of courses in vocational education, to include methods of teaching industrial technology; and~~
 - c. ~~A valid Class 1 or Class 2 fingerprint clearance card.~~
- L.** ~~Provisional Vocational Certificate – Marketing – grades K-12~~
- 1. ~~The certificate is valid for two years.~~
 - 2. ~~The requirements are:~~
 - a. ~~A valid Class 1 or Class 2 fingerprint clearance card.~~
 - b. ~~A Bachelor's degree; and 6,000 clock hours of verified employment in the area to be taught; or~~
 - c. ~~A Bachelor's or more advanced degree in business or marketing; 2,000 clock hours of verified employment in marketing or a practicum in marketing occupations; and six semester hours of courses in each of the following: marketing, management, and finance.~~
 - 3. ~~The holder of this certificate shall receive a passing score on the professional knowledge portion of the Arizona Teacher Proficiency Assessment before the 2nd renewal of the provisional vocational certificate or the issuance of the standard vocational certificate.~~
- M.** ~~Standard Vocational Certificate – Marketing – grades K-12~~
- 1. ~~The certificate is valid for six years.~~
 - 2. ~~The requirements are:~~
 - a. ~~Qualification for the provisional vocational certificate – Marketing under the requirements in subsection (L)(2)(b);~~
 - b. ~~Twelve semester hours of marketing or business education courses to include methods of teaching, and curriculum and materials of instruction; and~~

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e. A valid Class 1 or Class 2 fingerprint clearance card.

B. A provisional career and technical education certificate shall be renewed once for two years upon completion of nine semester hours of courses required for the standard career and technical education certificate in the same career and technical education area. Courses should be completed since the most recent issuance of the provisional certificate.

C. For purposes of this rule, the following definitions apply:

1. “Agriculture” means agriculture, agriculture operations, and related sciences; natural resources and conservation; environmental design; landscape architecture; agricultural biological engineering and bioengineering; forest engineering, biological and biomedical sciences; parks, recreation and leisure studies; geological and earth sciences/geosciences; veterinary/animal health technology/technician and veterinary assistant; environmental health; veterinary medicine; veterinary biomedical and clinical sciences; and veterinary residency programs as described in Classification of Instructional Programs: 2000 Edition: (NCES 2002-165) U.S. Department of Education, National Center for Education Statistics, 1990 K Street, NW, Washington, DC 20006; U.S. Government Printing Office, April 2002, CIP Codes 01, 03, 04.04, 04.06, 14.03, 14.34, 26, 31.0101, 40.06, 51.0808, 51.2202, 51.24, 51.25, 60.03, which is incorporated by reference and on file with the Arizona Department of Education and the Office of the Secretary of State. This incorporation by reference contains no future editions or amendments. Copies of the incorporated materials are available for review at the Arizona Department of Education located at 1535 W. Jefferson, Phoenix, AZ 85007 or may be ordered from the U.S. Department of Education, ED Pubs, P.O. Box 1398, Jessup, MD 20794-1398.
2. “Business and Marketing” means computer and information sciences and support services; computer engineering technologies/technicians; apparel and textile marketing management; accounting and computer science; business/commerce, general; business administration, management and operations; accounting and related services; business operations support and assistant services; business/corporate communications; business/managerial economics; entrepreneurial and small business operations; finance and financial management services; hospitality administration/management; human resources management and services; international business; management information systems and services; management sciences and quantitative methods; marketing; real estate; taxation; insurance; general sales, merchandising and related marketing operations; specialized sales, merchandising and marketing operations; and business, management, marketing and related support services, other as described in Classification of Instructional Programs: 2000 Edition: (NCES 2002-165) U.S. Department of Education, National Center for Education Statistics, 1990 K Street, NW, Washington, DC 20006; U.S. Government Printing Office, April 2002, CIP Codes 11, 15.12, 19.0905, 30.16, 52.01-52.19 and 52.99, which is incorporated by reference and on file with the Arizona Department of Education and the Office of the Secretary of State. This incorporation by reference contains no future editions or amendments. Copies of the incorporated materials are available for review at the Arizona Department of Education located at 1535 W. Jefferson, Phoenix, AZ 85007 or may be ordered from the U.S. Department of Education, ED Pubs, P.O. Box 1398, Jessup, MD 20794-1398.
3. “Family and Consumer Sciences” means culinary arts and related services; kindergarten/preschool education and teaching; early childhood education and teaching; family and consumer sciences/human sciences; nutrition sciences; interior design; hospitality administration/management; fashion merchandising; fashion modeling; apparel and accessories marketing operations; tourism and travel services marketing operations; tourism promotion operations; and hospitality and recreation marketing operations as described in Classification of Instructional Programs: 2000 Edition: (NCES 2002-165) U.S. Department of Education, National Center for Education Statistics, 1990 K Street, NW, Washington, DC 20006; U.S. Government Printing Office, April 2002, CIP Codes 12.05, 13.1209, 13.1210, 19, 30.19, 50.0408, 52.09, 52.1902-52.1906, and 52.1910, which is incorporated by reference and on file with the Arizona Department of Education and the Office of the Secretary of State. This incorporation by reference contains no future editions or amendments. Copies of the incorporated materials are available for review at the Arizona Department of Education located at 1535 W. Jefferson, Phoenix, AZ 85007 or may be ordered from the U.S. Department of Education, ED Pubs, P.O. Box 1398, Jessup, MD 20794-1398.
4. “Health Careers” means exercise physiology; kinesiology and exercise science; medical/clinical assistant; clinical/medical laboratory assistant; pharmacy technician/assistant; medical radiologic technology/science-radiation therapist; radiologic technology/science-radiographer; physician assistant; athletic training/trainer; clinical/medical laboratory technician; clinical laboratory science/medical technology/technologist; phlebotomy/phlebotomist; medicine; nursing/registered nurse; osteopathic medicine/osteopathy; pharmacy; physical therapy/therapist; and kinesiotherapy/kinesiotherapist as described in Classification of Instructional Programs: 2000 Edition: (NCES 2002-165) U.S. Department of Education, National Center for Education Statistics, 1990 K Street, NW, Washington, DC 20006; U.S. Government Printing Office, April 2002, CIP Codes 26.0908, 31.0505, 51.0801, 51.0802, 51.0805, 51.0907, 51.0911, 51.0912, 51.0913, 51.1004, 51.1005, 51.1009, 51.12, 51.1601, 51.19, 51.2001, 51.2308 and 51.2311 which is incorporated by reference and on file with the Arizona Department of Education and the Office of the Secretary of State. This incorporation by reference contains no future editions or amendments. Copies of the incorporated materials are available for review at the Arizona Department of Education located at 1535 W. Jefferson, Phoenix, AZ 85007 or may be ordered from the U.S. Department of Education, ED Pubs, P.O. Box 1398, Jessup, MD 20794-1398.

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5. “Industrial Technology” means audiovisual communications technologies/technicians; graphic communications; cosmetology and related personal grooming services; electrical engineering technologies/technicians; electromechanical instrumentation and maintenance technologies/technicians; environmental control technologies/technicians; industrial production technologies/technicians; quality control and safety technologies/technicians; mechanical engineering related technologies/technicians; mining and petroleum technologies/technicians; construction engineering technologies; engineering-related technologies; computer engineering technologies/technicians; drafting/design engineering technologies/technicians; security and protective services; mason/masonry; carpenters; electrical and power transmission installers; building/construction finishing, management and inspection; electrical/electronics maintenance and repair technology; heating, air conditioning, ventilation and refrigeration maintenance technology/technician; heavy/industrial equipment maintenance technologies; precision systems maintenance and repair technologies; vehicle maintenance and repair technologies; precision metal working; construction/heavy equipment/earthmoving equipment operation; design and visual communications, general; commercial and advertising art; industrial design; and commercial photography as described in Classification of Instructional Programs: 2000 Edition: (NCES 2002-165) U.S. Department of Education, National Center for Education Statistics, 1990 K Street, NW, Washington, DC 20006; U.S. Government Printing Office, April 2002, CIP Codes 10.02-10.03, 12.04, 15.03-15.13, 43, 46.01-46.04, 47.01-47.06, 48.05, 49.0202, and 50.0401-50.0406, which is incorporated by reference and on file with the Arizona Department of Education and the Office of the Secretary of State. This incorporation by reference contains no future editions or amendments. Copies of the incorporated materials are available for review at the Arizona Department of Education located at 1535 W. Jefferson, Phoenix, AZ 85007 or may be ordered from the U.S. Department of Education, ED Pubs, P.O. Box 1398, Jessup, MD 20794-1398.
 6. “Occupations” means employment in any of the areas identified in R7-2-611(C)(1) through (5) relating to Agriculture, Business and Marketing, Family and Consumer Sciences, Health Careers, or Industrial Technology.
 7. “Professional Knowledge” means the art of teaching including the knowledge and skills necessary for instructional planning, delivery and evaluation in a career and technical education setting.
 8. “Subject Knowledge” means the information, understanding and skills specific to the broad course of study.
 9. “Verified Experience” means written documentation from a current or former employer, a current school superintendent, the Department of Education Career and Technical Education Programmatic State Supervisor, or self employment tax forms that indicate that an applicant for a career and technical education certificate performed work in a business or industry setting related to the program to be taught as identified in R7-2-611(C)(1) through (5).
- D. Provisional Career and Technical Education Certificate - Agriculture -- grades K-12**
1. The certificate is valid for two years.
 2. The requirements are:
 - a. A valid Class 1 or Class 2 fingerprint clearance card; and
 - b. One of the following options:
 - i. Option A:
 - (1) A Bachelor’s degree;
 - (2) Thirty semester hours of courses in agriculture with at least five semester hours of courses in three of the following areas: animal science; plant science including soils; agricultural engineering or mechanics; economics or agricultural economics; or agricultural or natural resources; and
 - (3) Two-hundred-forty clock hours of verified experience in agriculture occupations.
 - ii. Option B:
 - (1) A valid Arizona standard secondary teaching certificate issued pursuant to this Article;
 - (2) One year of the most recent teacher evaluation(s) approved by a certificated administrator, or the administrator’s designee, in a secondary school setting and issued during the term of the Arizona standard secondary teaching certificate exhibiting satisfactory performance in the classroom;
 - (3) Three semester hours of courses in career and technical agricultural education methods; and
 - (4) Four-hundred-eighty clock hours of verified experience in agriculture occupations.
 - iii. Option C:
Six thousand clock hours of verified experience in agriculture occupations.
 - iv. Option D:
A valid teaching certificate in career and technical agriculture education from another state.
 3. The holder of this certificate shall receive a passing score on the professional knowledge portion of the Arizona Teacher Proficiency Assessment for secondary teachers before the renewal of the provisional career and technical education certificate - Agriculture or the issuance of the standard career and technical education certificate - Agriculture. A person holding this certificate pursuant to Option D shall not be required to take the professional knowledge portion of the Arizona Teacher Proficiency Assessment for secondary teachers if the person has passed a component on a proficiency assessment that has been adopted by a state board of education or equivalent agency in another state and that the Board in this state has determined to be equivalent to the professional knowledge portion of the Arizona Teacher Proficiency Assessment for secondary teachers.

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E. Standard Career and Technical Education Certificate - Agriculture -- grades K-12

1. The certificate is valid for six years.
2. The requirements are:
 - a. A valid Class 1 or Class 2 fingerprint clearance card; and
 - b. One of the following options:
 - i. Option A:
 - (1) Qualification under Option A for the provisional career and technical education certificate - Agriculture; and
 - (2) Twenty-one semester hours of courses, to include the following areas: methods of teaching agriculture, curriculum and materials of instruction, career and technical education classroom management including laboratory safety, operation of a career and technical student organization, experiential education, and practicum in agriculture in grades K-12. Two years of experience teaching agriculture in grades K-12 may substitute for the practicum.
 - ii. Option B:
 - (1) Qualification under Option B for the provisional career and technical education certificate - Agriculture;
 - (2) Two years of teacher evaluation(s) approved by a certificated administrator, or the administrator's designee, in a secondary school setting and issued during the term of the provisional career and technical education certificate - Agriculture exhibiting satisfactory performance in the classroom; and
 - (3) Fifteen semester hours of courses to include:
 - (a) Nine semester hours of courses in agriculture subject knowledge;
 - (b) Three semester hours of courses in career and technical classroom management including laboratory safety; and
 - (c) Three semester hours of courses in the operation of a career and technical student organization.
 - iii. Option C:
 - (1) Qualification under Option C for the provisional career and technical education certificate - Agriculture;
 - (2) Two years of teacher evaluation(s) approved by a certificated administrator, or the administrator's designee, in a secondary school setting and issued during the term of the provisional career and technical education certificate - Agriculture exhibiting satisfactory performance in the classroom;
 - (3) Fifteen semester hours of courses in professional knowledge to include any of the following areas: principles/philosophy of career and technical education, operation of a career and technical student organization, methods of teaching agriculture, curriculum design/development, instructional design/methodology, assessment/evaluation, instructional technology, educational philosophy, or career and technical education classroom management including laboratory safety; and
 - (4) Nine semester hours of courses in agriculture subject knowledge.
 - iv. Option D:
 - (1) Qualification under Option D for the provisional career and technical education certificate - Agriculture; and
 - (2) Two years of teacher evaluation(s) approved by a certificated administrator, or the administrator's designee, in a secondary school setting and issued during the term of the provisional career and technical education certificate - Agriculture exhibiting satisfactory performance in the classroom.

F. Provisional Career and Technical Education Certificate - Business and Marketing -- grades K-12

1. The certificate is valid for two years.
2. The requirements are:
 - a. A valid Class 1 or Class 2 fingerprint clearance card; and
 - b. One of the following options:
 - i. Option A:
 - (1) A Bachelor's or more advanced degree in business, business education, marketing or marketing education; and
 - (2) Two-hundred-forty clock hours of verified experience in business/marketing occupations or a practicum in the areas of business/marketing occupations.
 - ii. Option B:
 - (1) A valid Arizona standard secondary teaching certificate issued pursuant to this Article;
 - (2) One year of the most recent teacher evaluation(s) approved by a certificated administrator, or the administrator's designee, in a secondary school setting and issued during the term of the Arizona standard secondary teaching certificate exhibiting satisfactory performance in the classroom;
 - (3) Three semester hours of courses in career and technical business or marketing education methods; and
 - (4) Four-hundred-eighty clock hours of verified experience in business/marketing occupations.
 - iii. Option C:
Six thousand clock hours of verified experience in business/marketing occupations.

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iv. Option D:

A valid teaching certificate in business education, marketing education, career and technical business education or career and technical marketing education from another state.

3. The holder of this certificate shall receive a passing score on the professional knowledge portion of the Arizona Teacher Proficiency Assessment for secondary teachers before the renewal of the provisional career and technical education certificate - Business and Marketing or the issuance of the standard career and technical education certificate - Business and Marketing. A person holding this certificate pursuant to Option D shall not be required to take the professional knowledge portion of the Arizona Teacher Proficiency Assessment for secondary teachers if the person has passed a component on a proficiency assessment that has been adopted by a state board of education or equivalent agency in another state and that the Board in this state has determined to be equivalent to the professional knowledge portion of the Arizona Teacher Proficiency Assessment for secondary teachers.

G. Standard Career and Technical Education Certificate - Business and Marketing -- grades K-12

1. The certificate is valid for six years.

2. The requirements are:

a. A valid Class 1 or Class 2 fingerprint clearance card; and

b. One of the following options:

i. Option A:

(1) Qualification under Option A for the provisional career and technical education certificate - Business and Marketing; and

(2) Eighteen semester hours of courses in professional knowledge to include any of the following areas: principles/philosophy of career and technical education, operation of a career and technical student organization, methods of teaching business or marketing, curriculum design/development, instructional technology, educational philosophy, instructional design/methodology, assessment/evaluation, or classroom management.

ii. Option B:

(1) Qualification under Option B for the provisional career and technical education certificate - Business and Marketing;

(2) Two years of teacher evaluation(s) approved by a certificated administrator, or the administrator's designee, in a secondary school setting and issued during the term of the provisional career and technical education certificate - Business and Marketing exhibiting satisfactory performance in the classroom; and

(3) Twelve semester hours to include:

(a) Nine semester hours of courses in business or marketing subject knowledge; and

(b) Three semester hours of courses in professional knowledge to include any of the following areas: principles/philosophy of career and technical education, operation of a career and technical student organization, methods of teaching business or marketing, curriculum design/development, instructional technology, classroom management, educational philosophy, instructional design/methodology, or assessment/evaluation.

iii. Option C:

(1) Qualification under Option C for the provisional career and technical education certificate - Business and Marketing;

(2) Two years of teacher evaluation(s) approved by a certificated administrator, or the administrator's designee, in a secondary school setting and issued during the term of the provisional career and technical education certificate - Business and Marketing exhibiting satisfactory performance in the classroom;

(3) Fifteen semester hours of courses in professional knowledge to include any of the following areas: principles/philosophy of career and technical education, operation of a career and technical student organization, methods of teaching business or marketing, curriculum design/development, instructional design/methodology, assessment/evaluation, instructional technology, educational philosophy or career and technical education classroom management; and

(4) Nine semester hours of courses in business or marketing subject knowledge.

iv. Option D:

(1) Qualification under Option D for the provisional career and technical education certificate - Business and Marketing; and

(2) Two years of teacher evaluation(s) approved by a certificated administrator, or the administrator's designee, in a secondary school setting and issued during the term of the provisional career and technical education certificate - Business and Marketing exhibiting satisfactory performance in the classroom.

H. Provisional Career and Technical Education Certificate - Family and Consumer Sciences -- grades K-12

1. The certificate is valid for two years.

2. The requirements are:

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- a. A valid Class 1 or Class 2 fingerprint clearance card; and
- b. One of the following options:
 - i. Option A:
 - (1) A Bachelor's degree;
 - (2) Thirty semester hours of courses in family and consumer sciences that includes instruction in each of the following: human development; family or human relations; clothing, textiles or fashion merchandising; nutrition or food preparation; facility management, housing or interior design; consumer economics, family resources, personal finance or family financial management; food production or culinary arts; and child development; and
 - (3) Two-hundred-forty clock hours of verified experience in family and consumer sciences occupations.
 - ii. Option B:
 - (1) A valid Arizona standard secondary teaching certificate issued pursuant to this Article;
 - (2) One year of the most recent teacher evaluation(s) approved by a certificated administrator, or the administrator's designee, in a secondary school setting and issued during the term of the Arizona standard secondary teaching certificate exhibiting satisfactory performance in the classroom;
 - (3) Three semester hours of courses in career and technical occupational family and consumer sciences education methods; and
 - (4) Four-hundred-eighty clock hours of verified experience in family and consumer sciences occupations.
 - iii. Option C:
Six thousand clock hours of verified experience in family and consumer sciences occupations.
 - iv. Option D:
A valid teaching certificate in career and technical family and consumer sciences education from another state.
- 3. The holder of this certificate shall receive a passing score on the professional knowledge portion of the Arizona Teacher Proficiency Assessment for secondary teachers before the renewal of the provisional career and technical education certificate - Family and Consumer Sciences or the issuance of the standard career and technical education certificate - Family and Consumer Sciences. A person holding this certificate pursuant to Option D shall not be required to take the professional knowledge portion of the Arizona Teacher Proficiency Assessment for secondary teachers if the person has passed a component on a proficiency assessment that has been adopted by a state board of education or equivalent agency in another state and that the Board in this state has determined to be equivalent to the professional knowledge portion of the Arizona Teacher Proficiency Assessment for secondary teachers.
- I. Standard Career and Technical Education Certificate - Family and Consumer Sciences -- grades K-12
 - 1. The certificate is valid for six years.
 - 2. The requirements are:
 - a. A valid Class 1 or Class 2 fingerprint clearance card; and
 - b. One of the following options:
 - i. Option A:
 - (1) Qualification under Option A for the provisional career and technical education certificate - Family and Consumer Sciences; and
 - (2) Eighteen semester hours of courses in professional knowledge to include any of the following areas: principles/philosophy of career and technical education, operation of a career and technical student organization, methods of teaching occupational family and consumer sciences, curriculum design/development, instructional technology, educational philosophy, instructional design/methodology, assessment/evaluation or classroom management including laboratory safety.
 - ii. Option B:
 - (1) Qualification under Option B for the provisional career and technical education certificate - Family and Consumer Sciences;
 - (2) Two years of teacher evaluation(s) approved by a certificated administrator, or the administrator's designee, in a secondary school setting and issued during the term of the provisional career and technical education certificate - Family and Consumer Sciences exhibiting satisfactory performance in the classroom; and
 - (3) Twelve semester hours of courses to include:
 - (a) Nine semester hours of courses in family and consumer sciences subject knowledge; and
 - (b) Three semester hours of courses in career and technical education classroom management including laboratory safety.
 - iii. Option C:
 - (1) Qualification under Option C for the provisional career and technical education certificate - Family and Consumer Sciences;

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- (2) Two years of teacher evaluation(s) approved by a certificated administrator, or the administrator's designee, in a secondary school setting and issued during the term of the provisional career and technical education certificate - Family and Consumer Sciences exhibiting satisfactory performance in the classroom;
 - (3) Fifteen semester hours of courses in professional knowledge to include any of the following areas: principles/philosophy of career and technical education, operation of a career and technical student organization, methods of teaching occupational family and consumer sciences, curriculum design/development, instructional design/methodology, assessment/evaluation, instructional technology, educational philosophy or career and technical education classroom management including laboratory safety; and
 - (4) Nine semester hours of courses in family and consumer sciences subject knowledge.
- iv. Option D:
 - (1) Qualification under Option D for the provisional career and technical education certificate - Family and Consumer Sciences; and
 - (2) Two years of teacher evaluation(s) approved by a certificated administrator, or the administrator's designee, in a secondary school setting and issued during the term of the provisional career and technical education certificate - Family and Consumer Sciences exhibiting satisfactory performance in the classroom.
- J. Provisional Career and Technical Education Certificate - Health Careers -- grades K-12.**
 - 1. The certificate is valid for two years.
 - 2. The requirements are:
 - a. A valid Class 1 or Class 2 fingerprint clearance card; and
 - b. One of the following options:
 - i. Option A:
 - (1) A Bachelor's or more advanced degree in a biological science, health science, physical science, or nursing; and
 - (2) Six thousand clock hours of verified experience in health careers occupations.
 - ii. Option B:
 - (1) A valid Arizona standard secondary teaching certificate issued pursuant to this Article;
 - (2) One year of the most recent teacher evaluation(s) approved by a certificated administrator or the administrator's designee, in a secondary school setting and issued during the term of the Arizona standard secondary teaching certificate exhibiting satisfactory performance in the classroom;
 - (3) Three semester hours of courses in career and technical education methods; and
 - (4) Six thousand clock hours of verified experience in health careers occupations.
 - iii. Option C:
Six thousand clock hours of verified experience in health careers occupations.
 - iv. Option D:
A valid teaching certificate in career and technical health careers education from another state.
 - 3. The holder of this certificate shall receive a passing score on the professional knowledge portion of the Arizona Teacher Proficiency Assessment for secondary teachers before the renewal of the provisional career and technical education certificate - Health Careers or the issuance of the standard career and technical education certificate – Health Careers. A person holding this certificate pursuant to Option D shall not be required to take the professional knowledge portion of the Arizona Teacher Proficiency Assessment for secondary teachers if the person has passed a component on a proficiency assessment that has been adopted by a board of education or equivalent agency in another state and that the state Board in this state has determined to be equivalent to the professional knowledge portion of the Arizona Teacher Proficiency Assessment for secondary teachers.
- K. Standard Career and Technical Education Certificate - Health Careers -- grades K-12**
 - 1. The certificate is valid for six years.
 - 2. The requirements are:
 - a. A valid Class 1 or Class 2 fingerprint clearance card; and
 - b. One of the following options:
 - i. Option A:
 - (1) Qualification under Option A for the provisional career and technical education certificate - Health Careers; and
 - (2) Eighteen semester hours of courses in professional knowledge to include any of the following areas: principles/philosophy of career and technical education, operation of a career and technical student organization, methods of teaching career and technical education, curriculum design/development, instructional technology, educational philosophy, instructional design/methodology, assessment/evaluation or classroom management including laboratory safety.

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- ii. Option B:
 - (1) Qualification under Option B for the provisional career and technical education certificate – Health Careers;
 - (2) Two years of teacher evaluation(s) approved by a certificated administrator, or the administrator’s designed, in a secondary school setting and issued during the term of the provisional career and technical education certificate - Health Careers exhibiting satisfactory performance in the classroom; and
 - (3) Twelve semester hours of courses to include:
 - (a) Nine semester hours of courses in health careers subject knowledge; and
 - (b) Three semester hours of courses in career and technical education classroom management including laboratory safety.
- iii. Option C:
 - (1) Qualification under Option C for the provisional career and technical education certificate – Health Careers;
 - (2) Two years of teacher evaluation(s) approved by a certificated administrator, or the administrator’s designee, in a secondary school setting and issued during the term of the provisional career and technical education certificate - Health Careers exhibiting satisfactory performance in the classroom;
 - (3) Fifteen semester hours of courses in professional knowledge to include any of the following areas: principles/philosophy of career and technical education, operation of a career and technical student organization, methods of teaching career and technical education, curriculum design/development, instructional design/methodology, assessment/evaluation, instructional technology, educational philosophy or career and technical education classroom management including laboratory safety; and
 - (4) Nine semester hours of courses in health careers subject knowledge.
- iv. Option D:
 - (1) Qualification under Option D for the provisional career and technical education certificate - Health Careers; and
 - (2) Two years of teacher evaluation(s) approved by a certificated administrator, or the administrator’s designee, in a secondary school setting and issued during the term of the provisional career and technical education certificate - Health Careers exhibiting satisfactory performance in the classroom.

L. Provisional Career and Technical Education Certificate - Industrial Technology -- grades K-12

- 1. The certificate is valid for two years.
- 2. The requirements are:
 - a. A valid Class 1 or Class 2 fingerprint clearance card; and
 - b. One of the following options:
 - i. Option A:
 - (1) A Bachelor’s or more advanced degree in Industrial Arts or Industrial Technology Education; and
 - (2) Two-hundred-forty clock hours of verified experience in industrial technology occupations.
 - ii. Option B:
 - (1) A valid Arizona standard secondary teaching certificate issued pursuant to this Article;
 - (2) One year of the most recent teacher evaluation(s) approved by a certificated administrator, or the administrator’s designee, in a secondary school setting and issued during the term of the Arizona standard secondary teaching certificate exhibiting satisfactory performance in the classroom;
 - (3) Three semester hours of courses in career and technical education methods; and
 - (4) Four-hundred-eighty clock hours of verified experience in industrial technology occupations.
 - iii. Option C:
 - Six thousand clock hours of verified experience in industrial technology occupations.
 - iv. Option D:
 - A valid teaching certificate in career and technical industrial arts education or career and technical industrial technology education from another state.
- 3. The holder of this certificate shall receive a passing score on the professional knowledge portion of the Arizona Teacher Proficiency Assessment for secondary teachers before the renewal of the provisional career and technical education certificate - Industrial Technology or the issuance of the standard career and technical education certificate - Industrial Technology. A person holding this certificate pursuant to Option D shall not be required to take the professional knowledge portion of the Arizona Teacher Proficiency Assessment for secondary teachers if the person has passed a component on a proficiency assessment that has been adopted by a state board of education or equivalent agency in another state and that the Board in this state has determined to be equivalent to the professional knowledge portion of the Arizona Teacher Proficiency Assessment for secondary teachers.

M. Standard Career and Technical Education Certificate - Industrial Technology -- grades K-12

- 1. The certificate is valid for six years.
- 2. The requirements are:

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- a. A valid Class 1 or Class 2 fingerprint clearance card; and
- b. One of the following options:
 - i. Option A:
 - (1) Qualification under Option A for the provisional career and technical education certificate - Industrial Technology; and
 - (2) Eighteen semester hours of courses in professional knowledge to include any of the following areas: principles/philosophy of career and technical education, operation of a career and technical student organization, methods of teaching career and technical education, curriculum design/development, instructional technology, educational philosophy, instructional design/methodology, assessment/evaluation, or classroom management including laboratory safety.
 - ii. Option B:
 - (1) Qualification under Option B for the provisional career and technical education certificate - Industrial Technology;
 - (2) Two years of teacher evaluation(s) approved by a certificated administrator, or the administrator's designee, in a secondary school setting and issued during the term of the provisional career and technical education certificate - Industrial Technology exhibiting satisfactory performance in the classroom; and
 - (3) Twelve semester hours of courses to include:
 - (a) Nine semester hours of courses in industrial technology subject knowledge; and
 - (b) Three semester hours of courses in career and technical education classroom management including laboratory safety.
 - iii. Option C:
 - (1) Qualification under Option C for the provisional career and technical education certificate - Industrial Technology;
 - (2) Two years of teacher evaluation(s) approved by a certificated administrator, or the administrator's designee, in a secondary school setting and issued during the term of the provisional career and technical education certificate - Industrial Technology exhibiting satisfactory performance in the classroom;
 - (3) Fifteen semester hours of courses in professional knowledge to include any of the following areas: principles/philosophy of career and technical education, operation of a career and technical student organization, methods of teaching career and technical education, curriculum design/development, instructional design/methodology, assessment/evaluation, instructional technology, educational philosophy or career and technical education classroom management including laboratory safety; and
 - (4) Nine semester hours of courses in industrial technology subject knowledge.
 - iv. Option D:
 - (1) Qualification under Option D for the provisional career and technical education certificate - Industrial Technology; and
 - (2) Two years of teacher evaluation(s) approved by a certificated administrator, or the administrator's designee, in a secondary school setting and issued during the term of the provisional career and technical education certificate - Industrial Technology exhibiting satisfactory performance in the classroom.

R7-2-617. Renewal Requirements

- A. No change
- B. No change
 - 1. No change
 - 2. No change
 - 3. No change
 - 4. No change
 - 5. No change
 - 6. No change
 - 7. No change
 - 8. No change
- C. No change
- D. No change
- E. No change
- F. No change
- G. No change
- ~~H. A provisional vocational certificate shall be renewed for 2 years upon completion of 9 semester hours of courses required for the standard vocational certificate in the same vocational area, completed since the most recent issuance or renewal of the provisional certificate.~~

NOTICE OF PROPOSED RULEMAKING

TITLE 12. NATURAL RESOURCES

CHAPTER 1. RADIATION REGULATORY AGENCY

PREAMBLE

<u>1. Sections Affected</u>	<u>Rulemaking Action</u>
R12-1-102	Amend
R12-1-107	New Section
R12-1-311	Amend
R12-1-319	Amend
R12-1-403	Amend
R12-1-407	Amend
R12-1-413	Amend
R12-1-416	Amend
R12-1-418	Amend
R12-1-419	Amend
R12-1-430	Amend
R12-1-439	Amend
R12-1-444	Amend
R12-1-445	Amend
R12-1-450	Amend
R12-1-451	New Section
R12-1-452	New Section
R12-1-502	Repeal
R12-1-502	New Section
R12-1-503	Repeal
R12-1-503	New Section
R12-1-504	Amend
R12-1-505	Repeal
R12-1-505	New Section
R12-1-506	Amend
R12-1-507	Amend
R12-1-508	Amend
R12-1-509	Repeal
R12-1-509	New Section
R12-1-510	Repeal
R12-1-510	New Section
R12-1-511	Repeal
R12-1-512	Amend
R12-1-513	New Section
R12-1-515	New Section
R12-1-516	New Section
R12-1-517	New Section
R12-1-521	Repeal
R12-1-522	Amend
R12-1-523	Amend
R12-1-524	Amend
R12-1-525	New Section
R12-1-533	Amend
R12-1-534	Repeal
R12-1-539	New Section
R12-1-540	New Section
R12-1-543	New Section
Appendix A	New Section
R12-1-612	Amend
R12-1-703	Amend
R12-1-704	Amend
R12-1-706	Amend
R12-1-712	Amend
R12-1-713	Amend

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R12-1-714	Amend
R12-1-716	Amend
R12-1-717	Amend
Exhibit A	Amend
R12-1-801	Amend
R12-1-803	Amend
R12-1-804	Amend
R12-1-805	Amend
R12-1-806	Amend
R12-1-807	New Section
R12-1-808	New Section
R12-1-809	New Section
Article 10	Amend
R12-1-1215	Amend
R12-1-1302	Amend
R12-1-1701	New Section
R12-1-1702	Repeal
R12-1-1702	New Section
R12-1-1715	Amend
R12-1-1718	Repeal
R12-1-1718	New Section
R12-1-1723	Amend
R12-1-1724	New Section
R12-1-1725	New Section
R12-1-1726	New Section
R12-1-1727	New Section
R12-1-1728	New Section
R12-1-1751	Amend

2. The specific authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Authorizing statute: A.R.S. § 30-654(B)

Implementing statutes: A.R.S. §§ 30-657, 30-672, 30-673, and 30-683

3. A list of all previous notices appearing in the Register addressing the proposed rules:

Notice of Rulemaking Docket Opening: 8 A.A.R. 798, February 22, 2002

Notice of Rulemaking Docket Opening: 8 A.A.R. 2113, May 10, 2002

Notice of Rulemaking Docket Opening: 8 A.A.R. 4301, October 11, 2002

4. The name and address of agency personnel with whom persons may communicate regarding the rules:

Name: Daniel H. Kuhl
Address: Arizona Radiation Regulatory Agency
4814 S. 40th Street
Phoenix, AZ 85040
Telephone: (602) 255-4845, ext. 233
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E-mail: dkuhl@arra.state.az.us

5. An explanation of the rule, including the agency's reasons for initiating the rule:

Introductory Statement: Many of the changes are the result of deficiencies in Arizona's rules that become apparent when comparing them to Nuclear Regulatory Commission (NRC) regulations. Many years ago Arizona signed an Agreement with the NRC to enforce Arizona's radiation regulatory program according to NRC standards. New requirements added to Article 3, 4, 5, and 17 are made for this reason. Other changes are made to Article 5 that will aid the radiography licensee understand the radiographer certification process that was added to this Article in June of 2001. Article 7 is being amended to establish whom may receive radiopharmaceuticals from a nuclear pharmacy and whom is authorized to assist in brachytherapy procedures. Lastly, Articles 7, 8, 10, and 13 underwent a five-year review in March 2002. Many changes and additions are noted as a result of this review.

Article 1: A few definitions are updated to meet current federal standards, and the definition for personnel dosimetry is expanded to include the latest technology. R12-1-107 is a new rule created in attempt to regulate deliberate misconduct involving radiation sources.

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- Article 3: New standards are added to R12-1-311 to regulate persons transferring devices containing radioactive material to “generally licensed” persons. R12-1-319 is amended to reference new standards for license termination being added to Article 4.
- Article 4: R12-1-403 is amended to add new definitions and amend existing definitions that will aid in the understanding of the new federal standards added to this Article. R12-1-407 is amended to clarify ALARA programs for users of radioactive gases. Persons involved in planned special exposures, regulated under R12-1-413, will be required to file a report to the Agency within 30 days after the planned special exposure. R12-1-416 is amended to take into account the radiation emitted from patients treated under R12-1-719. Amendments are made to R12-1-418, R12-1-419, R12-1-430, R12-1-439, R12-1-444, and R12-1-445 so that Arizona’s rules will be compatible with NRC standards. R12-1-450 is amended to include a device or equipment in the rule’s required inventory if the device or equipment contains radioactive material. New regulations, required by the NRC, concerning standards for license termination, are added in R12-1-451 and R12-1-452. Included in R12-1-452 is acceptable surface contamination levels for radioactive material.
- Article 5: Article 5 is amended to add the latest standards found in NRC 10 CFR 34. The individual changes are too numerous to list. Also, it should be noted that most of Arizona’s radiography licensees do work outside of Arizona and are generally knowledgeable of NRC requirements. One of these changes worth mentioning is the repeal of the required radiography field audit. However, the licensee will still be required to perform an annual audit of the entire program in accordance with R12-1-407. Redundancy is eliminated with this change. A noteworthy addition by the Agency is the administrative requirement for all RAM radiography programs to notify the Agency of daily field operations which will aid the Agency in locating field operations for inspection purposes.
- Article 6: R12-1-612 is being amended to require technique settings for adult and pediatric patients be posted at a CT operating console.
- Article 7: The changes to Article 7 are made as result of recent changes made by the NRC to standards in 10 CFR 35. R12-1-703 is being amended to clarify the authorizations of authorized users and their associated training requirements are updated in R12-1-704, and qualifications for technologists that handle radiopharmaceuticals are being addressed. R12-1-706 is being amended to define which medical licensees will be required to have a radiation safety committee (RSC) to oversee the use of radioactive materials for therapy purposes. This is a significant change in the fact that some hospitals will be able to do away with their RSC and that some private clinics will now be required to have a RSC. R12-1-712 is amended to change the inventory frequency of sealed sources from quarterly to every six months. R12-1-713 is amended to remove the use of dose calibrators by medical licensees that receive RAM in unit dosages from a manufacturer or nuclear pharmacy; the unit dose cannot be manipulated by the user. R12-1-714 and R12-1-716 are amended to emphasize the importance of the qualified expert’s role in brachytherapy. Editorial changes are made to R12-1-717 to clarify existing requirements. Exhibit A is amended to update an incorporated reference and to include yttrium-90 to the Group IV therapy radiopharmaceuticals.
- Article 8: As stated earlier, most of the changes are made as result of a five-year review. The current rules were compared to the suggested state regulations of the Conference of Radiation Control Program Directors (CRCPD). Of specific interest are the new requirements in R12-1-807, R12-1-808, and R12-1-809, addressing concerning analytical x-ray system surveys, postings, and user training.
- Article 10: The title to Article 10 requires amending to reflect that its content affects ionizing radiation users and not nonionizing radiation users that are regulated under Article 14.
- Article 12: R12-1-1215 incorrectly lists “reciprocal” as an administrative division, when in fact the out-of-state user working in Arizona is actually treated, for administrative purposes, as a user in one of the radiation user categories defined under R12-1-1302. It is not clear that the reciprocal recognition under R12-1-320, which authorizes the possession and use of radioactive material under a general license in R12-1-1302(D)(16), is actually classified as the administrative sanction division that best describes the out-of-state user’s licensed activities.
- Article 13: R12-1-1302(D)(11) is amended to include a current incorporated reference.
- Article 17: Article 17 is undergoing extensive revision to include the latest well logging standards in 10 CFR 39. As stated earlier, Arizona is required to stay compatible with many of the NRC regulations. Of special interest are the following new requirements for uranium sinker bars, energy compensated sources, and tritium neutron generators. Other amendments include standards for radiation safety responsibilities in a well agreement, design and performance criteria for radioactive sources, use of sources in uncased holes, and Agency notification of incidents.

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6. A reference to any study relevant to the rule that the agency reviewed and either proposes to rely on in its evaluation of or justification for the rule or proposes not to rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

None

7. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

8. The preliminary summary of the economic, small business, and consumer impact:

The Article 1 definition amendments, resulting from a comparison to NRC standards, should not pose a financial burden for the regulated community. The addition of R12-1-107, regulating the misconduct of persons associated with users of radiation sources that may be involved in the exposure of the public to radiation, could be part of an enforcement action, as defined in Article 12. The enforcement actions can result in a civil penalty.

The change to R12-1-311 appears to be extensive and could result in a financial burden to the affected manufacturing licensees. It is believed these costs will be minimal when compared to the known costs already associated with the device's manufacture. It is also believed that Arizona manufacturers are already familiar with the need to meet the existing radiation safety standards. The proposed amendment is only offering changes to existing radiation safety standards.

The amended definitions in R12-1-403 will assist the reader to understand the other NRC required changes in Article 4. The definition changes will not present any additional costs to the radiation users. The newly required ALARA level for airborne radioactive material in R12-1-407 may present a minimal increase in cost to affect licensees. It is believed that it should be small because the affected licensees are already required to calculate the concentration levels in the restricted and unrestricted areas impacted by the discharge of radioactive material. The reporting requirement for planned special exposures in R12-1-413 will present only minimal additional cost to the affected licensees. The licensees are already required to maintain these records for Agency review. The amendment to R12-1-416 will result in an additional calculation for those medical licensees that release patients under R12-1-719. The cost of this calculation will be minimal to nonexistent. Amendments to the standards in R12-1-418, R12-1-419, R12-1-430, R12-1-439, R12-1-444, and R12-1-445 should have little economic impact with the minor changes being proposed. The standards affected are established by the NRC, and as previously stated, Arizona must adopt their standards. R12-1-450 is amended for clarification purposes. There should be no additional economic burden resulting from the change. R12-1-451 and R12-1-452 are added to include standards for terminating radioactive material licenses. Licensees possessing sealed sources should not be affected economically by the additional termination requirements. The cost associated with termination of a radiation use program will be unchanged because the Agency already regulates these activities. The actual costs are unknown and will vary depending on the amount, form, and radionuclide that are used at the licensee's facility. Only large users of unsealed sources including universities, large medical centers, and research centers, should be affected. It is assumed less than ten licensees in Arizona may be impacted by the termination rules. In past rulemaking, the Agency has made every effort to protect the state and its citizens from the costs and radiation hazards associated with the termination of licensed programs involving significant amounts of radioactive material by requiring the applicant to submit a decommissioning plan to the Agency with their application for a license, as required in R12-1-323. Currently, the Agency is requiring licensees comply with termination standards through the use of license conditions.

With the exception of R12-1-525, Article 5 is undergoing a major revision to be compatible with NRC standards in 10 CFR 34. It is doubtful, even with the extensive changes, that any significant costs will result from these amendments because all of our licensees contract for work throughout the United States and are already familiar with these new standards. In fact, the mandatory certification exam that radiographers have been taking to function in Arizona is based on the new federal standards. There is one exception to this discussion on costs. It deals with the employment of qualified radiation safety officers (RSO). The Agency will be grand-fathering in the existing active RSOs and not requiring each licensee to hire individuals that meet the proposed training and experiences requirements for new RSOs. It is believed the new standards may result in higher salaries for these individuals. The new requirements for RSOs are in R12-1-512. Finally, these federal radiography standards have undergone extensive national review and have already been adopted by many states. R12-1-525 is added by the Agency to assist in performing meaningful safety inspections. The cost to the licensee should only be the time and expense of faxing a current radiography work schedule to the Agency on a daily basis. The cost associated with this activity should be minimal.

R12-1-612 is undergoing a minor change to require the posting of both an adult and a pediatric technique chart near the operating console of a Computerized Tomographic (CT) radiography unit. The cost will be minimal for this minor administrative function.

The licensing requirements in R12-1-703 are being amended to clarify language associated with physicians using radioactive material regulated under Article 7, and to add qualifications for technologists handling radioactive material under the supervision of a physician. This change will not result any additional costs. The cost of employing tech-

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nologists, meeting a specific qualification standard, will be addressed when the rules of the Medical Radiologic Technology Board of Examiners are amended to reflect the latest change to their law A.R.S. § 32-2800.

R12-1-704, R12-1-706, R12-1-712, R12-1-714, R12-1-716, and R12-1-717 are amended to clarify existing requirements and update procedures to current federal standards. There should not be a remarkable increase in costs associated with these changes. With the changes to R12-1-713 the licensee's costs associated with maintaining a dose calibrator may diminish, should a licensee decide to not use one. The costs affected are the cost of purchase, daily operation and quality assurance, and maintenance provided by the manufacturer and physicist consultants. The amount of savings is unknown at this time.

The five-year review recently conducted on Article 8 produced a number of changes that will not result in any significant economic impact. The majority of changes were made for clarification purposes and to bring Arizona's analytical x-ray rules up to CRCPD standards. Also, the Addition of R12-1-807, R12-1-808, and R12-1-809, which came about as part of the review, should not result in any significant impact as well. Adequate surveys and postings are already required by Article 4. Training is required in Article 10. The new rules simply clarify and specify the details of each of these activities.

Changes to Article 10, 12, and 13 are made for clarification purposes and should not result in any economic impact, while Article 17 has a number of changes that may impact persons that operate well logging/wireline businesses or use the services of well logging/wireline businesses. The changes to this Article arise from a five-year review that included a review against CRCPD standards. The changes are grouped together according to their potential impact. The definitions in R12-1-1701 are new and will help the reader understand the new rules and have no economic impact. The amendments to R12-1-1715, R12-1-1718, R12-1-1723, and R12-1-1751 are made to bring the rules up to current standards and should have little additional impact on the affected parties. The new regulations in R12-1-1725, R12-1-1726, and R12-1-1727 may result in an economic impact for licensees in the future because no licensees are performing activities in Arizona that would be affected by these rules. The future impact may be small because there are few licensees that perform well logging/wireline services in Arizona. Currently, there are two Arizona licensees and two that actively enter Arizona under reciprocity. The potential associated costs are expected to be small only when shallow water holes are logged. There are no deep petroleum wells in Arizona which could result in higher costs associated with a failed safety system. Two final rules R12-1-1724, which is new, and amendments to R12-1-1728 offer the greatest potential for economic impact. The actual amount has not been evaluated. The potential for contamination is great if procedures are not followed. The first rule requires that contamination from breached sources be controlled. In past incidents outside of Arizona the costs associated with the cleanup of a leaking well logging source was in the millions of dollars. To protect aquifers, well holes should be cased. Failure to properly case a hole could result in contaminated drinking water, as well as the well site. Again, thus could be very costly. Therefore, it is believed the cost associated with casing the hole may be somewhat expensive, however, the cost may be actually quite small compared to the cost of a cleanup resulting from a breached source and contaminated aquifer.

9. The name and address of agency personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:

Name: Daniel H. Kuhl
Address: Arizona Radiation Regulatory Agency
4814 S. 40th Street
Phoenix, AZ 85040
Telephone: (602) 255-4845, ext. 233
Fax: (602) 437-0705
E-mail: dkuhl@arra.state.az.us

10. The time, place, and nature of the proceedings for the making, amendment, or repeal of the rule, or if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rule:

An oral proceeding at the Agency is scheduled for Monday April 21, 2003, at 9:00 a.m. A person may submit written comments concerning the proposed rules by submitting them no later than 5:00 p.m. on April 21, 2003, to the following person:

Name: Aubrey V. Godwin, Director
Address: Arizona Radiation Regulatory Agency
4814 S. 40th Street
Phoenix, AZ 85040
Telephone: (602) 255-4845
Fax: (602) 437-0705

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11. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

Not applicable

12. Incorporations by reference and their location in the rules:

<u>Rule</u>	<u>Incorporation</u>
R12-1-416	10 CFR 190
R12-1-439(A)(B) and (C)	Appendix G, 10 CFR 20
R12-1-444	40 CFR 190
R12-1-503(A)	N432-1980, <i>Radiological Safety for the Design and construction of Apparatus for Gamma Radiography</i>
R12-1-503(C)(2)	10 CFR 71
R12-1-522(A)(6)	49 CFR 171-173
R12-1-540(B)(11)	10 CFR 71.5
R12-1-543(B)	10 CFR 71
R12-1-543(C)	10 CFR 71
R12-1-703(C)(2)(a)	10 CFR 32.72
R12-1-704(C)	10 CFR 35
Exhibit A (Group I), Article 7	10 CFR 32.72
R12-1-1302(D)(11)	10 CFR 61
R12-1-1718(B)	ANSI/HPS N43.6-1997 <i>Sealed Radioactive Sources - Classification</i>

13. The full text of the rules follows:

TITLE 12. NATURAL RESOURCES

CHAPTER 1. RADIATION REGULATORY AGENCY

ARTICLE 1. GENERAL PROVISIONS

Section

- R12-1-102. Definitions
R12-1-107. ~~Repeated~~ Deliberate Misconduct

ARTICLE 3. RADIOACTIVE MATERIAL LICENSING

Section

- R12-1-311. Special Requirements for a Specific License to Manufacture, Assemble, Repair, or Distribute Commodities, Products, or Devices Which Contain Radioactive Material
R12-1-319. Modification, Revocation, and Termination of Licenses

ARTICLE 4. STANDARDS FOR PROTECTION AGAINST IONIZING RADIATION

Section

- R12-1-403. Definitions
R12-1-407. Radiation Protection Programs
R12-1-413. Planned Special Exposures
R12-1-416. Dose Limits for Individual Members of the Public
R12-1-418. Surveys and Monitoring
R12-1-419. Conditions Requiring Individual Monitoring of External and Internal Occupational Dose
R12-1-430. ~~Posting Exceptions~~ Exceptions to Posting Requirements
R12-1-439. Transfer for Disposal and Manifests
R12-1-444. Reports of Exposures, Radiation Levels, and Concentrations of Radioactive Material Exceeding the Constraints or Limits
R12-1-445. Notification of Incidents
R12-1-450. Sealed Sources
R12-1-451. Termination of a Radioactive Material License or a Licensed Activity
R12-1-452. Radiological Criteria for License Termination

ARTICLE 5. INDUSTRIAL RADIOGRAPHY OPERATIONS

- Section
- R12-1-502. ~~Radiographic Equipment Standards and Equipment Failure Notification~~ Specific License for Industrial Radiography
- R12-1-503. ~~Storage precautions~~ Performance Requirements for Industrial Radiography Equipment
- R12-1-504. Radiation Survey Instruments
- R12-1-505. ~~Leak Testing, Repair, Tagging, Opening, Modification, and Replacement of Sealed Sources~~ Leak Testing and Replacement of Sealed Sources
- R12-1-506. Quarterly Inventory
- R12-1-507. Utilization Logs
- R12-1-508. Inspection and Maintenance of Radiographic Exposure Devices, Transport and Storage Containers, Associated Equipment, Source Changers, and Survey Instruments
- R12-1-509. ~~Permanent Radiographic Installations~~ Surveillance
- R12-1-510. ~~Operating Personnel~~ Conducting Industrial Radiographic Operations
- R12-1-511. ~~License and Registration Application for Industrial Radiography~~ Repealed
- R12-1-512. Radiation Safety Officer (RSO)
- R12-1-513. ~~Repealed~~ Form of Records
- R12-1-515. ~~Repealed~~ Locking of Radiographic Exposure Devices, Storage Containers and Source Changers
- R12-1-516. ~~Repealed~~ Records of Receipt and Transfer of Sealed Sources
- R12-1-517. ~~Repealed~~ Posting
- R12-1-521. ~~Radiographer and Radiographer's Assistant Qualifications, Radiographer Certification, and Audits~~ Repealed
- R12-1-522. Operating and Emergency Procedures
- R12-1-523. Personnel Monitoring ~~Control~~
- R12-1-524. Supervision of radiographers' assistants
- R12-1-525. ~~Reserved~~ Agency Notification of Field Work
- R12-1-533. Radiation Surveys ~~and Survey Records~~
- R12-1-534. ~~Records Required at Temporary Job Sites~~ Repealed
- R12-1-539. ~~Reserved~~ Permanent Radiographic Installations
- R12-1-540. ~~Reserved~~ Location of Documents and Records
- R12-1-543. Training
- Appendix A. Standards for Organizations Providing Radiography Certification

ARTICLE 6. USE OF X-RAYS IN THE HEALING ARTS

- Section
- R12-1-612. Computerized Tomographic Systems

ARTICLE 7. USE OF RADIONUCLIDES IN THE HEALING ARTS
MEDICAL USES OF RADIOACTIVE MATERIAL

- Section
- R12-1-703. License for Medical Use of Radioactive Material
- R12-1-704. Supervision
- R12-1-706. Radiation Safety Committee
- R12-1-712. Sealed Sources
- R12-1-713. Dose Calibrators and Determination of Dosages
- R12-1-714. Brachytherapy
- R12-1-716. Teletherapy
- R12-1-717. High Dose Rate Remote After-loading Brachytherapy Devices
- Exhibit A. Groups of Medical Uses of Radioactive Material

ARTICLE 8. RADIATION SAFETY REQUIREMENTS FOR ANALYTICAL X-RAY OPERATIONS

- Section
- R12-1-801. Scope
- R12-1-803. ~~Enclosed Beam~~ Enclosed-beam X-ray Systems
- R12-1-804. ~~Open Beam~~ Open-beam X-ray Systems
- R12-1-805. Administrative Responsibilities
- R12-1-806. Operating Requirements
- R12-1-807. Surveys

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R12-1-808. Postings
R12-1-809. Training

**ARTICLE 10. NOTICES, INSTRUCTIONS, AND REPORTS TO IONIZING RADIATION
WORKERS; INSPECTIONS**

ARTICLE 12. ADMINISTRATIVE PROVISIONS

Section
R12-1-1215. License and Registration Divisions

ARTICLE 13. LICENSE AND REGISTRATION FEES

Section
R12-1-1302. License and Registration Categories

**ARTICLE 17. RADIATION SAFETY REQUIREMENTS FOR WIRELINE SERVICE OPERATIONS
AND SUBSURFACE TRACER STUDIES**

Section
R12-1-1701. ~~Reserved~~ Definitions
R12-1-1702. ~~Required Written Agreement~~ Agreement with well owner or operator
R12-1-1715. Leak Testing of Sealed Sources
R12-1-1718. ~~Design, Performance and Certification Criteria for Sealed Sources Used in Downhole Operations~~ Design and
Performance Criteria for Sources
R12-1-1723. Personnel Monitoring
R12-1-1724. ~~Reserved~~ Radioactive contamination control
R12-1-1725. ~~Reserved~~ Uranium Sinker Bars
R12-1-1726. ~~Reserved~~ Energy Compensation Source
R12-1-1727. ~~Reserved~~ Tritium Neutron Generator Target Source
R12-1-1728. ~~Reserved~~ Use of a Sealed Source in a Well Without a Surface Casing
R12-1-1751. ~~Notification of Incidents, Abandonment and Lost Sources~~ Notification of Incidents and Lost Sources; Aban-
donment Procedures for Irretrievable Sources

ARTICLE 1. GENERAL PROVISIONS

R12-1-102. Definitions

Terms defined in A.R.S. § 30-651 have the same meanings when used in this Chapter. The following terms have the definitions set forth below. Additional definitions used only in a certain Article will be found in that Article.

- “A₁” No change
- “Absorbed dose” No change
- “Accelerator” No change
- “Accelerator produced material” No change
- “Act” No change
- “Activity” No change
- “Adult” No change
- “Agency,” or “ARRA” No change
- “Agreement State” No change
- “Airborne radioactive material” No change
- “Airborne radioactivity area” No change
- “ALARA” No change
- “Analytical x-ray equipment” No change
- “Analytical x-ray system” No change
- “Annual” No change
- “Background radiation” No change
- “Becquerel” No change
- “Bioassay” No change
- “Brachytherapy” No change

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“By-product material” No change
“Calendar quarter” No change
“Calibration” No change
“Certifiable cabinet x-ray system” No change
“Certified cabinet x-ray system” No change
“CFR” No change
“Chelating agent” No change
“Civil penalty” No change
“Collective dose” No change
“Committed dose equivalent” No change
“Committed effective dose equivalent” No change
“Curie” No change
“Current license” No change
“Deep-dose equivalent” No change
“Depleted uranium” No change
“Dose” No change
“Dose equivalent (H_T)” No change
“Dose limits” No change
“Dosimeter” No change
“Effective dose equivalent (H_E)” No change
“Effluent release” No change
“Embryo/fetus” No change
“Enclosed beam x-ray system” No change
“Enclosed radiography” No change
“Cabinet radiography” No change
“Shielded room radiography” No change
“Entrance or access point” No change
“Exhibit” No change
“Explosive material” No change
“Exposure” No change
“Exposure rate” No change
“External dose” No change
“Extremity” No change
“Fail-safe characteristics” No change
“Field radiography” No change
“Field station” No change
“Former U.S. Atomic Energy Commission (AEC) or U.S. Nuclear Regulatory Commission (NRC) licensed facilities” No change
“Generally applicable environmental radiation standards” No change
“Gray” No change
“Hazardous waste” No change
“Healing arts” No change
“Health care institution” No change
“High radiation area” means an area, accessible to individuals, in which radiation levels from radiation sources external to the body could result in an individual receiving a dose equivalent in excess of 1 mSv (0.1 rem) in 1 hour at 30 centimeters from any source of radiation or from any surface that the radiation penetrates.
“Human use” No change

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“Impound” No change

“Individual” No change

“Individual monitoring” No change

“Individual monitoring ~~device devices~~” or “individual monitoring equipment” means ~~an instrument devices~~ designed to be worn by a single individual for the assessment of dose equivalent. For purposes of these rules, “dosimeter,” “personnel dosimeter,” and “personnel monitoring equipment” are equivalent terms. Examples of individual monitoring devices are film badges, ~~thermoluminescent~~ thermoluminescence dosimeters (TLDs), pocket ionization chambers, optical stimulation devices, and personal (“lapel”) air sampling devices.

“Industrial radiography” No change

“Injection tool” No change

“Inspection” No change

“Interlock” No change

“Internal dose” No change

“Irradiate” No change

“Laser” No change

“Lens dose equivalent” No change

“License” No change

“Licensed material” No change

“Licensed practitioner” No change

“Licensee” No change

“Licensing State” No change

“Limits” No change

“Local components” No change

“Logging supervisor” No change

“Logging tool” No change

“Lost or missing licensed or registered source of radiation” No change

“Low-level waste” No change

“Major processor” No change

“Medical dose” No change

“Member of the public” No change

“MeV” No change

“Mineral logging” No change

“Minor” No change

“Monitoring” No change

“Multiplier” No change

“NARM” No change

“Normal operating procedures” No change

“Natural radioactivity” No change

“NRC” No change

“Nuclear waste” No change

“Occupational dose” means the dose received by an individual ~~in a restricted area~~ in the course of employment ~~while engaged in activities licensed or registered by the Agency~~ in which the individual’s assigned duties involve exposure to sources of radiation, whether in the possession of the licensee, registrant, or other person. Occupational dose does not include dose received: ~~from background radiation, as a patient from medical practices, from voluntary participation in medical research programs, or as a member of the public. from any medical administration the individual has received, from exposure to individuals administered radioactive material and released in accordance with R12-1-719, from voluntary participation in medical research programs or as a member of the public.~~

“Open beam system” No change

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“Package” No change

“Particle accelerator” No change

“Permanent radiographic installation” No change

“Personnel dosimeter” No change

“Personnel monitoring equipment” No change

“Personal supervision” No change

“Pharmacist” No change

“Physician” No change

“Primary beam” No change

“Public dose” means the dose received by a member of the public from radiation and to radioactive material released by the licensee or registrant, or exposure to sources of radiation used in licensed or registered operations. It does not include an occupational dose, a dose received from background radiation, ~~a dose received as a patient from medical practices, or a dose from voluntary participation in medical research programs~~ from any medical administration the individual has received, from exposure to individuals administered radioactive material and released in accordance with R12-1-719, or from voluntary participation in medical research programs.

“Pyrophoric liquid” No change

“Pyrophoric solid” No change

“Qualified expert” No change

“Quality Factor” No change

“Quarter” No change

“Rad” No change

“Radiation” No change

“Radiation area” No change

“Radiation dose” No change

“Radiation machine” No change

“Radiation safety officer” No change

“Radioactive marker” No change

“Radioactive material” No change

“Radioactivity” No change

“Radiographer” No change

“Radiographer’s assistant” No change

“Radiographic exposure device” No change

“Registrant” No change

“Registration” No change

“Regulations of the U.S. Department of Transportation” No change

“Rem” No change

“Research and Development” No change

“Restricted area” No change

“Roentgen” No change

“Safety system” No change

“Sealed source” No change

“Shallow dose equivalent” No change

“Shielded position” No change

“Sievert” No change

“Site boundary” No change

“Source changer” No change

“Source holder” No change

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“Source material” No change
“Source material milling” No change
“Source of radiation” or “source” No change
“Special form radioactive material” No change
“Special nuclear material in quantities not sufficient to form a critical mass” No change
“Storage area” No change
“Storage container” No change
“Subsurface tracer study” No change
“Survey” No change
“TEDE” No change
“Teletherapy” No change
“Temporary job site” No change
“Test” No change
“These rules” No change
“Total Effective Dose Equivalent” (TEDE) No change
“Total Organ Dose Equivalent” (TODE) No change
“Unrefined and unprocessed ore” No change
“Unrestricted area” No change
“U.S. Department of Energy” No change
“Waste” No change
“Waste handling licensees” No change
“Week” No change
“Well-bore” No change
“Well-logging” No change
“Whole body” No change
“Wireline” No change
“Wireline service operation” No change
“Worker” No change
“WL” No change
“WLM” No change
“Workload” No change
“Year” No change

R12-1-107. ~~Repeated~~ Deliberate Misconduct

- A.** Any licensee, registrant, applicant for a license or certificate of registration, employee of a licensee, a registrant or applicant; or any contractor (including a supplier or consultant), subcontractor, employee of a contractor or subcontractor of any licensee or certificate of registration holder or applicant for a license or certificate of registration, who knowingly provides to any licensee, applicant, certificate holder, contractor, or subcontractor, any components, equipment, materials, or other goods or services that relate to a licensee’s, certificate holder’s or applicant’s activities in this part, may not:
1. Engage in deliberate misconduct that causes or would have caused, if not detected, a licensee, certificate of registration holder, or applicant to be in violation of any rule, regulation, or order; or any term, condition, or limitation of any license issued by the Agency; or
 2. Deliberately submit to the Agency, a licensee, certificate of registration holder, an applicant, or a licensee’s, certificate holder’s or applicant’s, contractor or subcontractor, information that the person submitting the information knows to be incomplete or inaccurate in some respect material to the Agency.
- B.** For purposes of Administrative sanctions listed in R12-1-1216, a person who violates subsection (A)(1) or (A)(2) may be subject to enforcement actions in Title 12, Chapter 1, Article 12. For these purposes the person shall be classified as a Division II licensee and the violation shall be classified as a Severity II violation.
- C.** For the purposes of subsection (A)(1), deliberate misconduct by a person means an intentional act or omission that the person knows:

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1. Would cause a licensee, registrant, or applicant to be in violation of any rule, regulation, or order; or any term, condition, or limitation, of any license issued by the Agency; or
 2. Would set up a violation of a requirement, procedure, instruction, contract, purchase order, or policy of a licensee, registrant, applicant, contractor, or subcontractor.
- D.** A person who is not a licensee, registrant or applicant and knowingly violates a rule for the safe use of radiation sources in Title 12, Chapter 1 shall be subject to the enforcement actions in Title 12, Chapter 1, Article 12.

ARTICLE 3. RADIOACTIVE MATERIAL LICENSING

R12-1-311. Special Requirements for a Specific License to Manufacture, Assemble, Repair, or Distribute Commodities, Products, or Devices Which Contain Radioactive Material

- A.** No change
1. No change
 - a. No change
 - b. No change
 2. No change
- B.** No change
1. No change
 - a. No change
 - b. No change
 - c. No change
 2. No change
 - a. No change
 - b. No change
 - c. No change
 - i. No change
 - ii. No change
 - d. No change
 - i. No change
 - ii. No change
 - iii. No change
 3. No change
- C.** No change
1. No change
 2. No change
- D.** No change
1. No change
 - a. No change
 - b. No change
 - i. No change
 - ii. No change
 - iii. No change
 - c. No change
 - i. No change
 - ii. No change
 - iii. No change
 - d. No change
 2. No change
 - a. No change
 - b. No change
 - c. No change
 - d. No change
 - e. No change
 - f. No change
 - g. No change
 - h. No change
 - i. No change
 - j. No change
 3. No change

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4. Each person licensed under subsection (D) to distribute devices to general licensed persons shall furnish:
 - a. ~~Furnish a~~ Δ copy of the general license contained in R12-1-306(B) to each person to whom the individual, directly or through an intermediate person, transfers radioactive material in a device for use according to the general license contained in R12-1-306(B).
 - b. ~~Furnish a~~ Δ copy of the general license contained in the NRC or Agreement State's or Licensing State's regulation equivalent to R12-1-306(B), or alternatively, furnish a copy of the general license contained in R12-1-306(B) to each person to whom the individual, directly or through an intermediate person, transfers radioactive material in a device for use according to the general license of the NRC, Agreement State, or Licensing State. If a copy of the general license in R12-1-306(B) is furnished to a person, it shall be accompanied by a note explaining that the use of the device is regulated by the U.S. NRC, Agreement State, or Licensing State under requirements substantially the same as those in R12-1-306(B).
 - c. ~~Report to the Agency all transfers of devices to persons for use under the general license in R12-1-306(B). The report shall identify each general licensee by name and address, an individual by name or position who serves as the contact person for the general licensee, the type and model number of device transferred, and the quantity and type of radioactive material contained in the device. If 1 or more intermediate persons will temporarily possess the device at the intended place of use prior to its possession by the user, the report shall identify each intermediate person by name, address, contact, and relationship to the intended user. If no transfers have been made to persons generally licensed under R12-1-306(B) during the reporting period, the report shall so indicate. The report shall cover each calendar quarter and be filed within 30 days after the end of the quarter.~~
 - d. ~~Report to the NRC all transfers of devices to persons for use under the NRC general license in 10 CFR 31.5.~~
 - e. ~~Report to the responsible Agreement State or Licensing State agency all transfers of devices to persons for use under a general license in an Agreement State's regulation equivalent to R12-1-306(B).~~
 - i. ~~The report shall identify each general licensee by name and address, an individual by name or position who serves as the contact person for the general licensee, the type and model of the device transferred, and the quantity and type of radioactive material contained in the device. If 1 or more intermediate persons will temporarily possess the device at the intended place of use prior to its possession by the user, the report shall identify each intermediate person by name, address, contact, and relationship to the intended user. The report shall be submitted within 30 days after the end of each calendar quarter in which a device is transferred to the generally licensed person.~~
 - ii. ~~If no transfers have been made to NRC licensees during the reporting period, this information shall be reported to the NRC.~~
 - iii. ~~If no transfers have been made to a particular state during the reporting period, this information shall be reported to the responsible state agency upon request of the agency; and~~
 - f. ~~Keep records showing the name, address, and the contact person for each general licensee to whom the distributor, directly or through an intermediate person, transfers radioactive material in devices for use according to the general license provided in R12-1-306(B), or equivalent regulations of the NRC, an Agreement State, or Licensing State. The records should show the date of each transfer, the isotope and the quantity of radioactivity in each device transferred, the identity of any intermediate person, and compliance with the report requirements of this Section.~~
5. Each person licensed under this Section to initially transfer devices to generally licensed persons shall comply with the following requirements:
 - a. The person shall report all transfers of devices to persons for use under the general license in R12-1-306(B), and all receipts of devices from persons licensed under R12-1-306(B) to the Agency, NRC, or other affected Agreement State. The report shall be submitted on a quarterly basis in a clear and legible form and shall contain the following information:
 - i. The identity of each general licensee by name and mailing address for the location of use; if there is no mailing address for the location of use, an alternate address for the general licensee shall be submitted along with information on the actual location of use;
 - ii. The name, title, and phone number of the person identified by the general licensee as having knowledge of and authority to take required actions to ensure compliance with the appropriate rules and requirements;
 - iii. The date of transfer;
 - iv. The type, model number, and serial number of the device transferred; and
 - v. The quantity and type of byproduct material contained in the device.
 - b. If one or more intermediate persons will temporarily possess the device at the intended place of use before its possession by the user, the report shall include the same information for both the intended user and each intermediate person, and clearly designate the intermediate person(s).
 - c. For devices received from a general licensee, licensed under R12-1-306(B), the report shall include:
 - i. The identity of the general licensee by name and address;
 - ii. The type, model number, and serial number of the device received;

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- iii. The date of receipt; and
- iv. In the case of devices not initially transferred by the reporting licensee, the name of the manufacturer or initial transferor.
- d. If the licensee makes changes to a device possessed by a general licensee, such that the label must be changed to update required information, the report shall identify the general licensee, the device, and the changes to information on the device label.
- e. The report shall cover each calendar quarter and shall be filed within 30 days of the end of the calendar quarter, and shall clearly indicate the period covered by the report.
- f. The report shall clearly identify the specific licensee submitting the report and include the license number of the specific licensee.
- g. If no transfers have been made to or from persons generally licensed under R12-1-306(B) during the reporting period, a report indicating the lack of activity shall be submitted to the Agency.
- 6. Each person licensed under this Section to initially transfer devices to generally licensed persons shall comply with the following requirements:
 - a. The person shall report all transfers of devices to persons for use under the general license in R12-1-306(B), and all receipts of devices from persons licensed under R12-1-306(B) to the Agency. The report shall be submitted on a quarterly basis in a clear and legible form and shall contain the following information:
 - i. The identity of each general licensee by name and mailing address for the location of use; if there is no mailing address for the location of use, an alternate address for the general licensee shall be submitted along with information on the actual location of use;
 - ii. The name, title, and phone number of the person identified by the general licensee as having knowledge of and authority to take required actions to ensure compliance with the appropriate rules and requirements;
 - iii. The date of transfer;
 - iv. The type, model number, and serial number of the device transferred; and
 - v. The quantity and type of byproduct material contained in the device.
 - b. If one or more intermediate persons will temporarily possess the device at the intended place of use before its possession by the user, the report shall include the same information for both the intended user and each intermediate person, and clearly designate the intermediate person(s).
 - c. For devices received from a general licensee, the report shall include:
 - i. The identity of the general licensee by name and address;
 - ii. The type, model number, and serial number of the device received;
 - iii. The date of receipt, and
 - iv. In the case of devices not initially transferred by the reporting licensee, the name of the manufacturer or initial transferor.
 - d. If the licensee makes changes to a device possessed by a general licensee, such that the label must be changed to update required information, the report shall identify the general licensee, the device, and the changes to information on the device label.
 - e. The report shall cover each calendar quarter and shall be filed within 30 days of the end of the calendar quarter, and shall clearly indicate the period covered by the report.
 - f. The report shall clearly identify the specific licensee submitting the report and shall include the license number of the specific licensee.
 - g. If no transfers have been made to or from persons generally licensed under R12-1-306(B) during the reporting period, a report indicating the lack of activity shall be submitted to the Agency.
- 7. Records of all transfers shall be maintain for Agency inspection. Records shall be maintained for three years after termination of the license to manufacture the generally licensed devices regulated under R12-1-306(B) has been terminated.
- E. No change
 - 1. No change
 - 2. No change
- F. No change
 - 1. No change
 - 2. No change
- G. No change
 - 1. No change
 - 2. No change
 - a. No change
 - b. No change
- H. No change
 - 1. No change

- 2. No change
 - a. No change
 - b. No change
 - c. No change
 - d. No change
 - e. No change
 - f. No change
 - g. No change
- 3. No change
 - a. No change
 - b. No change
- 4. No change
 - a. No change
 - b. No change
- 5. No change
- I.** No change
 - 1. No change
 - 2. No change
- J.** No change
 - 1. No change
 - a. No change
 - b. No change
 - i. No change
 - ii. No change
 - c. No change
 - d. No change
 - 2. No change
- K.** No change
 - 1. No change
 - 2. No change
 - a. No change
 - b. No change
 - 3. No change
 - 4. No change
 - 5. No change
 - a. No change
 - b. No change
- L.** No change
 - 1. No change
 - a. No change
 - b. No change
 - i. No change
 - ii. No change
 - iii. No change
 - iv. No change
 - v. No change
 - vi. No change
 - vii. No change
 - viii. No change
 - c. No change
 - 2. No change
 - a. No change
 - b. No change
 - c. No change
 - d. No change
 - e. No change
 - f. No change
 - g. No change
 - h. No change

- i. No change
- j. No change
- M. No change**
 - 1. No change
 - a. No change
 - b. No change
 - c. No change
 - 2. No change
 - 3. No change
 - 4. No change
 - a. No change
 - b. No change
 - i. No change
 - ii. No change
 - c. No change
 - d. No change
 - e. No change
 - f. No change
 - i. No change
 - ii. No change
 - iii. No change
 - iv. No change
 - v. No change
 - vi. No change

R12-1-319. Modification, Revocation, and Termination of Licenses

- A. No change
- B. No change
- C. No change
- D. The Agency may terminate a specific license upon a written request by the licensee: if the termination criteria in R12-1-451 and R12-1-452 have been met.

ARTICLE 4. STANDARDS FOR PROTECTION AGAINST IONIZING RADIATION

R12-1-403. Definitions

“ALI” No change

“Class” No change

“Constraint (dose constraint)” means a value above which specified licensee or registrant actions are required.

“DAC” No change

“DAC-hour” No change

“Declared pregnant woman” means a woman who has voluntarily informed her employer, in writing, of her pregnancy and the estimated date of conception. The declaration remains in effect until the declared pregnant woman withdraws the declaration in writing or is no longer pregnant.

“Decommission” means to remove a facility or site safely from service and reduce residual radioactivity to a level that permits:

Release of the property for unrestricted use and termination of the license; or

Release of property under restricted conditions and the termination of the license.

“Deterministic effect” [see “nonstochastic effect”] No change

“Distinguishable from background” means that the detectable concentration of a radionuclide is statistically different from the background concentration of that radionuclide in the vicinity of the site or, in the case of structures, in similar materials using adequate measurement technology, survey, and statistical techniques.

“Dosimetry processor” No change

“Inhalation class” [see “Class”] No change

“Lung class” [see “Class”] No change

“Nonstochastic effect” No change

“Planned special exposure” No change

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“Probabilistic effect” [see “Stochastic effect”] No change

“Reference Man” No change

“Residual radioactivity” means radioactivity in structures, materials, soils, groundwater, and other media at a site resulting from activities under the licensee’s control. This includes radioactivity from all licensed and unlicensed sources used by the licensee, but excludes background radiation. It also includes radioactive materials remaining at the site as a result of routine or accidental release of radioactive material at the site and previous burials at the site, even if those burials were made in accordance with the provisions of Title 12, Chapter 1.

“Respiratory protective equipment” No change

“Sanitary sewerage” No change

“Stochastic effect” No change

“Very high radiation area” means an area, accessible to individuals, in which radiation levels from radiation sources external to the body could result in an individual receiving an absorbed dose in excess of 5 Gy (500 rad) in one hour at 1 meter from a source of radiation or from any surface that the radiation penetrates. (At very high doses received at high dose rates, units of absorbed dose, gray and rad, are appropriate, rather than units of dose equivalent, sievert and rem)

“Weighting factor” No change

R12-1-407. Radiation Protection Programs

A. No change

B. No change

C. No change

D. To implement the ALARA requirements in subsection (B), and notwithstanding the requirements in R12-1-416, a constraint on air emissions of radioactive material to the environment shall be established by licensees licensed under Title 12, Chapter 1, Article 3, such that individual members of the public that are likely to receive the highest dose will not be expected to receive a total effective dose equivalent in excess of 0.1mSv (10 mrem) per year from these emissions. If a licensee subject to this requirement exceeds this dose constraint, the licensee shall report the exceedance to the Agency in accordance with R12-1-444, and take prompt corrective action to ensure against recurrence.

D-E. Records.

1. No change

a. No change

b. No change

2. ~~The~~ A licensee or registrant shall retain the records required by subsection ~~(D)(1)(a)~~ (E)(1)(a) above for three years after the termination of the license or registration. The licensee or registrant shall retain the records required by subsection ~~(D)(1)(b)~~ (E)(1)(b) above for three years after the record is made.

3. No change

R12-1-413. Planned Special Exposures

A. No change

1. No change

2. No change

3. No change

a. No change

b. No change

c. No change

4. No change

5. No change

a. No change

b. No change

6. No change

7. No change

B. Records.

1. No change

a. No change

b. No change

c. No change

d. No change

e. No change

f. No change

g. No change

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- h. No change
- 2. No change

C. A licensee shall submit a report to the Agency 30 days following a planned special exposure conducted in accordance with subsection (A). The report shall contain the date of the planned exposure and the information required by subsection (B).

R12-1-416. Dose Limits for Individual Members of the Public

- A.** No change
 - 1. The total effective dose equivalent to individual members of the public from the licensed or registered operation does not exceed 1 mSv (0.1 rem) in a year, exclusive of the dose contribution from background radiation, from any medical administration the individual has received, from exposure to individuals administered radioactive material and released in accordance with R12-1-719, from voluntary participation a medical research programs, and from the licensee's or registrant's disposal of radioactive material into sanitary sewerage in accordance with R12-1-436;
 - 2. The dose in any unrestricted area from external sources exclusive of the dose contributions from patients administered radioactive material and released in accordance with R12-1-719, does not exceed 0.02 mSv (0.002 rem) in any one hour.
- B.** No change
- C.** No change
 - 1. No change
 - 2. No change
 - 3. No change
- D.** In addition to the requirements of Article 4, a licensee or registrant subject to the provisions of the U.S. Environmental Protection Agency's generally applicable environmental radiation standards in 40 CFR 190, ~~1992~~ 2003 Edition, published July 1, ~~1992~~ 2003, by the Office of the Federal Register, National Archives and Records Administration, incorporated herein by reference and on file with the Office of the Secretary of State, shall comply with those standards.
- E.** No change
- F.** No change
- G.** No change
 - 1. No change
 - 2. No change
 - a. No change
 - b. No change
- H.** No change
- I.** No change

R12-1-418. Surveys and Monitoring

- A.** No change
 - 1. No change
 - 2. Under the circumstances to evaluate:
 - a. ~~Radiation~~ The magnitude and extent of radiation levels,
 - b. No change
 - c. No change
- B.** No change
 - 1. No change
 - 2. No change
- C.** No change
- D.** No change
 - 1. No change
 - 2. No change
 - a. No change
 - b. Records of the results of measurements and calculations ~~results~~ used to determine individual intakes of radioactive material and used in the assessment of internal dose;
 - c. No change
 - d. No change

R12-1-419. Conditions Requiring Individual Monitoring of External and Internal Occupational Dose

- A.** No change
- B.** No change
 - 1. No change

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2. Minors and declared pregnant women likely to receive, in 1 year from sources external to the body, a dose in excess of 10% of any of the applicable limits in R12-1-414 or R12-1-415; Minors likely to receive, in one year, from radiation sources external to the body, a deep dose equivalent in excess of 1 mSv (0.1 rem), a lens dose equivalent in excess of 1.5 mSv (0.15 rem), or a shallow dose equivalent to the skin or to the extremities in excess of 5 mSv (0.5 rem).
 3. Individuals entering a high or very high radiation area; and Declared pregnant women likely to receive during the entire pregnancy, from radiation sources external to the body, a deep dose equivalent in excess of 1 mSv (0.1 rem)
 4. No change
 - a. No change
 - b. No change
 - c. No change
 5. Individuals entering a high or very high radiation area.
- C. No change
1. No change
 2. Minors and declared pregnant women likely to receive, in 1 year, a committed effective dose equivalent in excess of 0.5 mSv (0.05 rem). Minors likely to receive, in one year, a committed effective dose equivalent in excess of 1 mSv (0.1 rem); and
 3. Declared pregnant women likely to receive, during the entire pregnancy, a committed effective dose equivalent in excess of 1 mSv (0.1 rem).
- D. No change
1. No change
 - a. No change
 - b. No change
 - c. No change
 - d. No change
 - e. No change
 - f. No change
 2. No change
 3. No change
 4. No change
 5. No change

R12-1-430. ~~Posting Exceptions~~ Exceptions to Posting Requirements

- A. No change
1. No change
 2. No change
- B. Rooms or other areas in hospitals that are occupied by patients are not required to be posted with caution signs pursuant to R12-1-429, provided that ~~confinement of the patient is not required pursuant to a condition on the radioactive material license; the patient could be released from licensee control pursuant to R12-1-719.~~
- C. A room or area is not required to be posted with a caution sign because of the presence of a sealed source provided the radiation level at 30 centimeters from the surface of the sealed source container or housing does not exceed 0.05 mSv (0.005 rem) per hour.
- D. A room or area is not required to be posted with a caution sign because of the presence of radiation machines used solely for diagnosis in the healing arts.

R12-1-439. Transfer for Disposal and Manifests

- ~~A.~~ Each shipment of radioactive waste designated for disposal at a licensed low-level radioactive waste disposal facility shall be accompanied by a shipment manifest as specified in subsection (D)(1).
- ~~B.~~ Each shipment manifest shall include a certification by the waste generator as specified in subsection (D)(2).
- ~~C.~~ Each person involved in the transfer of waste for disposal or in the disposal of waste, including the waste generator, waste collector, waste processor, and disposal facility operator, shall comply with the requirements specified in subsection (D)(3).
- ~~D.~~ Requirements for manifests and transfer of low-level radioactive waste to land disposal facilities:
1. The shipment manifest shall contain the name, address, and telephone number of the person generating the waste. The manifest shall also include the name, address, and telephone number or the name and U.S. Environmental Protection Agency hazardous waste identification number of the person transporting the waste to the land disposal facility. The manifest shall also indicate: a physical description of the waste, the volume, radionuclide identity and quantity, the total radioactivity, and the principal chemical form. The solidification agent shall be specified. Waste containing more than 0.1% chelating agents by weight shall be identified and the weight percentage of the chelating agent esti-

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mated. Wastes classified as Class A, Class B, or Class C in Appendix D, Section I shall be clearly identified by class in the manifest. The total quantity of the radionuclides hydrogen-3, carbon-14, technetium-99, and iodine-129 shall be shown. The manifest required by this paragraph may be shipping papers used to meet U.S. Department of Transportation or U.S. Environmental Protection Agency regulations or requirements of the receiver, provided all the required information is included. Copies of manifests required by this section may be legible carbon copies or legible photocopies.

2. The waste generator shall include in the shipment manifest a certification that the transported materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the U.S. Department of Transportation and the Agency. An authorized representative of the waste generator shall sign and date the manifest.
3. Control and Tracking
 - a. Any radioactive waste generator who transfers radioactive waste to a land disposal facility or a licensed waste collector shall comply with the requirements in subsections (D)(3)(a)(i) through (viii). Any radioactive waste generator who transfers radioactive waste to a licensed waste processor who treats or repackages waste shall comply with the requirements of subsections (D)(3)(a)(iv) through (vii). A licensee shall:
 - i. Prepare all wastes so that the waste is classified according to Appendix D, Section I and is characterized as required in Appendix D, Section II;
 - ii. Label each package of waste to identify whether it is Class A waste, Class B waste, or Class C waste, in accordance with Appendix D, Section III;
 - iii. Conduct a quality control program, including management evaluation of audits, to ensure compliance with Appendix D, Sections I and II;
 - iv. Prepare shipping manifests to meet the requirements of subsections (D)(1) and (D)(2);
 - v. Forward a copy of the manifest to the intended recipient, at the time of shipment, or deliver the manifest to a collector at the time the waste is collected, obtaining acknowledgment of receipt in the form of a signed copy of the manifest or equivalent documentation from the collector;
 - vi. Include 1 copy of the manifest with the shipment;
 - vii. Retain a copy of the manifest and documentation of acknowledgment of receipt as the record of transfer of licensed material as required by R12-1-318; and
 - viii. For any shipment or any portion of a shipment for which acknowledgment of receipt is not received within the times in this Section, conduct an investigation in accordance with subsection (D)(3)(e).
 - b. Any waste collector licensee who handles only prepackaged waste shall:
 - i. Acknowledge receipt of the waste from the generator within 1 week of receipt, by returning a signed copy of the manifest or equivalent documentation to the generator;
 - ii. Prepare a new manifest to reflect consolidated shipments; the new manifest shall serve as a listing or index for the detailed generator manifests. Copies of the generator manifests shall be a part of the new manifest. The waste collector may prepare a new manifest without attaching the generator manifests, provided the new manifest contains for each package the information specified in subsection (D)(1). The collector licensee shall certify that nothing has been done to the waste that would invalidate the generator's certification;
 - iii. Forward a copy of the new manifest to the land disposal facility operator at the time of shipment;
 - iv. Include the new manifest with the shipment to the disposal site;
 - v. Retain a copy of the manifest and documentation of acknowledgment of receipt as the record of transfer of licensed material as required by R12-1-318, and retain information from generator manifest until disposition is authorized by the Agency; and
 - vi. For any shipments or any portion of a shipment for which acknowledgment of receipt is not received within the times in this Section, conduct an investigation in accordance with subsection (D)(3)(e).
 - e. Any licensed waste processor who treats or repackages wastes shall:
 - i. Acknowledge receipt of the waste from the generator within 1 week of receipt by returning a signed copy of the manifest or equivalent documentation;
 - ii. Prepare a new manifest that meets the requirements in subsections (D)(1) and (D)(2). Preparation of the new manifest reflects that the processor is responsible for the waste;
 - iii. Prepare all wastes so that the waste is classified according to Appendix D Section I and meets the waste characteristics requirements in Appendix D Section II;
 - iv. Label each package of waste to identify whether it is Class A waste, Class B waste, or Class C waste, in accordance with Appendix D, Section III;
 - v. Conduct a quality control program, including management evaluation of audits, to ensure compliance with Appendix D, Sections Section I and II;
 - vi. Forward a copy of the new manifest to the disposal site generator or waste collector at the time of shipment, or deliver the manifest to a collector at the time the waste is collected, obtaining acknowledgment of receipt in the form of a signed copy of the manifest or equivalent documentation by the collector;

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- vii. Include the new manifest with the shipment;
 - viii. Retain copies of original manifests and new manifests and documentation of acknowledgment of receipt as the record of transfer of licensed material required by R12-1-318; and
 - ix. For any shipment or portion of a shipment for which acknowledgment of receipt is not received within the times in this Section, conduct an investigation in accordance with subsection (D)(3)(e).
- d. The land disposal facility operator shall:
- i. Acknowledge receipt of the waste within 1 week of receipt by returning a signed copy of the manifest or equivalent documentation to the shipper. The shipper to be notified is the licensee who last possessed the waste and transferred the waste to the operator. The returned copy of the manifest or equivalent documentation shall indicate any discrepancies between materials listed on the manifest and materials received;
 - ii. Maintain copies of all completed manifests or equivalent documentation until the Agency authorizes their disposition; and
 - iii. Notify the shipper, that is, the generator, the collector, or processor, and the Agency when any shipment or portion of a shipment has not arrived within 60 days after the date that the advance manifest was received.
- e. Any shipment or portion of a shipment for which acknowledgment is not received within the times in this Section shall be:
- i. Investigated by the shipper if the shipper has not received notification or receipt within 20 days after transfer; and
 - ii. Traced and reported to the shipper. The investigation shall include tracing the shipment and filing a report with the Agency. Each licensee who conducts a trace investigation shall file a written report with the Agency within 2 weeks of completion of the investigation.
- A.** Any licensee shipping radioactive waste intended for ultimate disposal at a licensed land disposal facility (for purposes of this rule land disposal facility is defined as the land, buildings, structures, and equipment which are intended to be used for the disposal of radioactive waste. A geologic repository is not a land disposal facility) shall document the information required on NRC's Uniform Low-Level Radioactive Waste Manifest and transfer this recorded manifest information to the intended consignee in accordance with Appendix G to 10 CFR 20, 2003 Edition published January 1, 2003, incorporated by reference and on file with the Agency and the Office of Secretary of State. This incorporation by reference contains no future editions or amendments.
- B.** Each shipment manifest shall include a certification by the waste generator as specified in Section II of Appendix G to 10 CFR 20 in incorporated by reference in subsection (A).
- C.** Each person involved in the transfer for disposal and disposal of waste, including the waste generator, waste collector, waste processor, and disposal facility operator, as defined in Appendix G to 10 CFR 20. Incorporated by reference in subsection (A), shall comply with the requirements specified in Section III of Appendix G to 10 CFR 20, incorporated by reference in subsection (A).

R12-1-444. Reports of Exposures, Radiation Levels, and Concentrations of Radioactive Material Exceeding the Constraints or Limits

- A.** No change
- 1. No change
 - 2. No change
 - a. No change
 - b. No change
 - c. No change
 - d. The limits for an individual member of the public in R12-1-416; ~~or~~
 - e. Any applicable limit in the license or registration; ~~or~~
 - f. The ALARA constraints for air emissions established under R12-1-407;
 - 3. No change
 - a. No change
 - b. No change
 - 4. For licensees subject to the provisions of U.S. Environmental Protection Agency's generally applicable environmental radiation standards in 40 CFR 190, ~~1999~~ 2002 Edition, published July 1, ~~1999~~ 2002, by the Office of the Federal Register, National Archives and Records Administration, incorporated herein by reference and on file with the Office of the Secretary of State, levels of radiation or releases of radioactive material in excess of those standards, or of license conditions related to those standards.
- B.** No change
- 1. No change
 - a. No change
 - b. No change
 - c. No change

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- d. Corrective steps taken or planned to ensure against a recurrence, including the schedule for achieving conformance with applicable limits, ALARA constraints, generally applicable environmental standards, and associated license or registration conditions.
2. Each report filed pursuant to subsection (A) above shall include for each occupationally overexposed individual ~~exposed~~: the name, Social Security account number, and date of birth. With respect to the limit for the embryo/fetus in R12-1-415, the identifiers should be those of the declared pregnant woman. The report shall be prepared so that this information is stated in a separate and detachable ~~portion~~ part of the report.

C. No change

R12-1-445. Notification of Incidents

- ~~**A.** Notwithstanding other requirements for notification, each licensee or registrant shall immediately report to the Agency each event involving a source of radiation possessed by the licensee or registrant that may have caused or threatens to cause any of the following conditions:~~
- ~~1. An individual to receive:
 - a. A total effective dose equivalent of 0.25 Sv (25 rem) or more;
 - b. A lens eye dose equivalent of 0.75 Sv (75 rem) or more; or
 - c. A shallow dose equivalent to the skin or extremities or a total organ dose equivalent of 2.5 Gy (250 rad) or more;or~~
 - ~~2. The release of radioactive material, inside or outside of a restricted area, so that, had an individual been present for 24 hours, the individual could have received an intake 5 times the occupational ALI. This provision does not apply to locations where personnel are not normally stationed during routine operations, such as hot cells or process enclosures.~~
- ~~**B.** If the Agency's telephone does not answer within three minutes, the Duty Officer of the Arizona Department of Public Safety is to be called and advised of:~~
- ~~1. The existing radiation emergency;~~
 - ~~2. The need to notify the Radiation Regulatory Agency's Duty Officer;~~
 - ~~3. The caller's identity and the name of the affected licensee or registrant;~~
 - ~~4. The location of the incident, and~~
 - ~~5. A telephone number where the caller can be reached.~~
- ~~**C.** Each licensee or registrant shall, within 24 hours of discovery of the event, report to the Agency each event involving loss of control of a licensed or registered source of radiation possessed by the licensee or registrant that may have caused, or threatens to cause, any of the following conditions:~~
- ~~1. An individual to receive, in a period of 24 hours:
 - a. A total effective dose equivalent exceeding 0.05 Sv (5 rem);
 - b. A lens dose equivalent exceeding 0.15 Sv (15 rem); or
 - c. A shallow dose equivalent to the skin or extremities or a total organ dose equivalent exceeding 0.5 Sv (50 rem);or~~
 - ~~2. The release of radioactive material, inside or outside of a restricted area, so that, had an individual been present for 24 hours, the individual could have received an intake in excess of 1 occupational ALI. This provision does not apply to locations where personnel are not normally stationed during routine operations, such as hot cells or process enclosures.~~
- ~~**D.** The licensee or registrant shall prepare each report filed with the Agency according to this Section so that names of individuals who have received exposure to sources of radiation are stated in a separate and detachable portion of the report.~~
- ~~**E.** Licensees or registrants shall make the reports required by subsections (A) and (C) by telephone, telegram, mailgram, or facsimile.~~
- ~~**F.** The provisions of this Section do not apply to doses that result from planned special exposures, provided the doses from the planned special exposures are within the planned limits and are reported according to R12-1-413.~~
- A.** Immediate notification: Each licensee or registrant shall immediately report to the Agency any event involving a radiation source that may have caused or threatens to cause any of the following conditions:
1. An individual to receive:
 - a. A total effective dose equivalent of 0.25 Sv (25 rem) or more; or
 - b. A lens dose equivalent of 0.75 Sv (75 rem) or more; or
 - c. A shallow-dose equivalent to the skin or extremities of 2.5 Gy (250 rads) or more; or
 2. The release of radioactive material, inside or outside of a restricted area, so that, had an individual been present for 24 hours, the individual could have received an intake five times the annual limit on intake (the provisions of this subsection do not apply to locations where personnel are not normally stationed during routine operations, such as hot-cells or process enclosures).

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- B.** Twenty-four hour notification: Each licensee or registrant shall, within 24 hours of discovery of the event, report to the Agency any event involving loss of control of radiation source possessed by the licensee or registrant that may have caused, or threatens to cause, any of the following conditions:
1. An individual to receive, in a period of 24 hours
 - a. A total effective dose equivalent exceeding 0.05 Sv (5 rem); or
 - b. A lens dose equivalent exceeding 0.15 Sv (15 rem); or
 - c. A shallow-dose equivalent to the skin or extremities exceeding 0.5 Gv (50 rads); or
 2. The release of radioactive material, inside or outside of a restricted area, so that, had an individual been present for 24 hours, the individual could have received an intake in excess of one occupational annual intake limit (the provisions of this subsection do not apply to locations where personnel are not normally stationed during routine operations, such as hot-cells or process enclosures).
- C.** The licensee or registrant shall prepare any report filed with the Agency according to this Section so that names of individuals who have received exposure to radiation or radioactive material are stated in a separate and detachable part of the report.
- D.** Reports made by licensees or registrants in response to the requirements of this Section shall be made by telephone to the Agency.
- E.** The provisions of this Section do not include doses that result from planned special exposures, that are within the limits for planned special exposures, and that are reported according to R12-1-413(C).
- F.** If the Agency does not respond to the initial telephone call the report shall be made to the Department of Public Safety who will contact the Agency Duty Officer for advisement.

R12-1-450. Sealed Sources

- A.** No change
- B.** Any licensee who possesses and uses sealed sources containing radioactive material, or devices or equipment that contain sealed sources containing radioactive material, shall follow the radiation safety and handling instructions approved by the Agency; or follow the radiation safety and handling instructions furnished by the manufacturer on the label attached to the source, on the permanent container of the sources or in the leaflet or brochure that accompanies the source, and maintain the instructions in a legible and conveniently available form. If the handling instructions, leaflet, or brochure is no longer available or a copy cannot be obtained from the manufacturer, the licensee shall notify the Agency that the source information is no longer available.
- C.** No change
1. No change
 2. No change
 3. No change
 - a. No change
 - b. No change
 - c. No change
 - d. No change
 - e. No change
- D.** No change
- E.** No change
- F.** No change

R12-1-451. Termination of a Radioactive Material License or a Licensed Activity

- A.** As the final step before terminating a licensed program for the use of radioactive material the licensee shall:
1. Certify the disposition of all licensed material, including accumulated wastes, by submitting a complete description of the disposal plan with signed receipts from all licensed persons receiving the disposed of licensed material; and
 2. Conduct a radiation survey of the premises where the licensed activities were carried out to demonstrate that the premises are suitable for release in accordance with the criteria for decommissioning in R12-1-452 and submit a report of the results of this survey, unless the licensee demonstrates in some other manner that the premises are suitable for release in accordance with the criteria for decommissioning in R12-1-452.
- B.** Prior to license termination, each licensee authorized to possess radioactive material with a half-life greater than 120 days, in any unsealed form, shall forward the following records to the Agency:
1. Records of disposal of the licensed material made under R12-1-435, R12-1-436, R12-1-437, and R12-1-438; and
 2. Records required by R12-1-418(D)(2)(d).
- C.** If licensed activities are transferred or assigned in accordance with subsection (E), each licensee authorized to possess radioactive material, with a half-life greater than 120 days, in an unsealed form, shall transfer the following records to the new licensee and the new licensee will be responsible for maintaining these records until the license is terminated:

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1. Records of disposal of licensed material made under R12-1-435, R12-1-436, R12-1-437, and R12-1-438; and
2. Records required by R12-1-418(D)(2)(d).

D. Prior to license termination, each licensee shall forward the records required by subsection (E) to the Agency.

E. Each person licensed under R12-1-312, shall keep records of the information important to the decommissioning of a facility in an identified location until the site is released for unrestricted use. Before licensed activities are transferred or assigned, a licensee shall transfer all records described in this Section to the new licensee. In this case, the new licensee will be responsible for maintaining these records until the new licensee's license is terminated. If the records are important to the decommissioning of a facility are kept for other purposes, reference to these records and their location may be used. The following decommissioning records shall be maintained for Agency review:

1. Records of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site. These records may be limited to instances when contamination remains after any cleanup procedures or when there is reasonable likelihood that contaminants may have spread to inaccessible areas as in the case of possible seepage into porous materials such as concrete. These records shall include any known information on identification of involved nuclides, quantities, forms, and concentrations.
2. As-built drawings and modifications of structures and equipment in restricted areas where radioactive materials are used and/or stored, and of locations of possible inaccessible contamination such as buried pipes which may be subject to contamination. If required drawings are referenced, each relevant document need not be indexed individually. If drawings are not available, the licensee shall substitute appropriate records of available information concerning these areas and locations.
3. Except for areas containing depleted uranium used only for shielding or as penetrators in unused munitions, a list contained in a single document and updated every two years, of the following:
 - a. All areas designated and formerly designated as restricted areas as defined under R12-1-102;
 - b. All areas outside of restricted areas that require documentation under subsection (B)(1);
 - c. All areas outside of restricted areas where current and previous wastes have been buried; and
 - d. All areas outside of restricted areas that contain material such that, if the license expired, the licensee would be required to either decontaminate the area to meet the criteria for decommissioning in R12-1-452, or apply to the Agency for disposal approval under R12-1-435.
4. Records of the cost estimate performed for the decommissioning funding plan or of the amount certified for decommissioning, and records of the funding method used for assuring funds if either a funding plan or certification is used.

R12-1-452. Radiological Criteria for License Termination

A. General provisions and scope:

1. The criteria in this rule apply to the decommissioning of facilities licensed under Article 3 of this Chapter. The criteria do not apply to uranium and thorium recovery facilities already subject to Appendix A to 10 CFR part 40 or to uranium solution extraction facilities.
2. The criteria in this rule do not apply to sites which:
 - a. Have been decommissioned prior to the effective date of the rule; or
 - b. Have previously submitted and received Agency approval on a license termination plan (LTP) or decommissioning plan.
3. After a site has been decommissioned and the license terminated in accordance with the criteria in this rule, the Agency will require additional cleanup only if based on new information, it determines that the criteria of this rule were not met and residual activity remaining at the site could result in significant threat to public health and safety.
4. When calculating TEDE to the average member of the critical group the licensee shall determine the peak annual TEDE dose expected within the first 1000 years after decommissioning.

B. Radiological criteria for unrestricted use:

A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a TEDE to an average member of the critical group that does not exceed 0.15 mSv (15 mrem) per year, including that from groundwater sources of drinking water, and that the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA). Determination of the levels which are ALARA shall take into account consideration of any detriments, such as deaths from transportation accidents, expected to potentially result from decontamination and waste disposal.

C. Criteria for license termination under restricted conditions:

A site will be considered acceptable for license termination under restricted conditions if:

1. The licensee can demonstrate that further reductions in residual radioactivity necessary to comply with the provisions of subsection (B) would result in net public or environmental harm or were not being made because the residual levels associated with restricted conditions are ALARA. Determination of the levels which are ALARA shall take into account consideration of any detriments, such as traffic accidents, expected to potentially result from decontamination and waste disposal:

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2. The licensee has made provisions for legally enforceable institutional controls that provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed (0.15 mSv) 15 mrem per year;
 3. The licensee has provided sufficient financial assurance to enable an independent third party, including a governmental custodian of a site, to assume and carry out responsibilities for any necessary control and maintenance of the site. Acceptable financial assurance mechanisms meeting the requirements in R12-1-323;
 4. The licensee has submitted a decommissioning plan or License Termination Plan (LTP) to the Agency indicating the licensee's intent to decommission in accordance with R12-1-323, and specifying that the licensee intends to decommission by restricting use of the site. The licensee shall document in the LTP or decommissioning plan how the advice of individuals and institutions in the community who may be affected by the decommissioning has been sought and incorporated, as appropriate, following analysis of that advice.
 - a. Licensees proposing to decommission by restricting use of the site shall seek advice from such affected parties regarding the following matters concerning the proposed decommissioning:
 - i. Whether provisions for institutional controls proposed by the licensee will provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 0.15 mSv (15 mrem) TEDE per year; will be enforceable; and will not impose undue burdens on the local community or other affected parties.
 - ii. Whether the licensee has provided sufficient financial assurance to enable an independent third party, including a governmental custodian of a site, to assume and carry out responsibilities for any necessary control and maintenance of the site;
 - b. In seeking advice on the issues identified in subsection (C)(4)(a), the licensee shall provide for:
 - i. Participation by representatives of a broad cross section of community interests who may be affected by the decommissioning;
 - ii. An opportunity for a comprehensive discussion on the issues by all of the participants represented; and
 - iii. A publicly available summary of the results of all such discussions, including a description of the individual viewpoints of the participants on the issues and the extent of agreement or disagreement among the participants on the issues; and
 5. Residual radioactivity at the site has been reduced so that if the institutional controls were no longer in effect, there is reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group is as low as reasonably achievable and would not exceed either (1 mSv) 100 mrem per year; or 5 mSv (500 mrem) per year provided that the licensee:
 - a. Demonstrates that further reductions in residual radioactivity necessary to comply with the 1 mSv/y (100 mrem/y) value in subsection (C)(5) are not technically achievable, would be prohibitively expensive, or would result in net public or environmental harm;
 - b. Makes provisions for durable institutional controls;
 - c. Provides sufficient financial assurance to enable a responsible government entity or independent third party, including a governmental custodian of a site, both to carry out periodic rechecks of the site no less frequently than every five years to assure that the institutional controls remain in place as necessary to meet the criteria of subsection (C)(2) and to assume and carry out responsibilities for any necessary control and maintenance of those controls. Acceptable financial assurance mechanisms are those in subsection (C)(3).
- D. Alternate criteria for license termination:**
1. The Agency may terminate a license using alternate criteria greater than the dose criterion of subsection (B), (C)(2), and will provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 0.15 mSv (15 mrem) TEDE per year, if the licensee:
 - a. Provides assurance that public health and safety would continue to be protected, and that it is unlikely that the dose from all man-made sources combined, other than medical, would be more than the 1 mSv/y (100 mrem/y) limit of R12-1-416, by submitting an analysis of possible sources of exposure;
 - b. Has employed to the extent practical restrictions onsite use according to the provisions of subsection (C) in minimizing exposures at the site; and
 - c. Reduces doses to ALARA levels, taking into consideration any detriments such as traffic accidents expected to potentially result from decontamination and waste disposal.
 - d. Has submitted a decommissioning plan or License Termination Plan (LTP) to the Agency indicating the licensee's intent to decommission in accordance with R12-1-323, and specifying that the licensee proposes to decommission by use of alternate criteria. The licensee shall document in the decommissioning plan or LTP how the advice of individuals and institutions in the community who may be affected by the decommissioning has been sought and addressed, as appropriate, following analysis of that advice. In seeking such advice, the licensee shall provide for:
 - i. Participation by representatives of a broad cross section of community interests who may be affected by the decommissioning;

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- ii. An opportunity for a comprehensive, discussion on the issues by all of the participants represented; and
 - iii. A publicly available summary of the results of all such discussions, including a description of the individual viewpoints of the participants on the issues and the extent of agreement and disagreement on the issues.
 - 2. The use of alternate criteria to terminate a license requires the approval of the Agency after consideration of Agency staff recommendations that will address any comments provided by the Environmental Protection Agency and any public comments submitted pursuant to subsection (E).
- E. Public notification and public participation:**
- 1. Upon the receipt of an LTP or decommissioning plan from the licensee, or a proposal by the licensee for release of a site pursuant to subsection (C) or subsection (D), or whenever the Agency deems such notice to be in the public interest, the Agency shall notify and solicit comments from:
 - a. Local and state governments in the vicinity of the site and any Indian Nation or other indigenous people that have treaty or statutory rights that could be affected by the decommissioning; and
 - b. The Environmental Protection Agency for cases where the licensee proposes to release a site pursuant to subsection (D).
 - 2. Publish a notice in the local newspaper, letters to state of local organizations, or other appropriate forum, that is readily accessible to individuals in the vicinity of the site, and solicit comments from affected parties.
- F. Minimization of contamination:**
- Applicants for licenses, other than renewals, after the effective date of this rule, shall describe in the application how facility design and procedures for operation will minimize, to the extent practicable, contamination of the facility and the environment, facilitate eventual decommissioning, and minimize, to the extent practicable, the generation of radioactive waste.
- G. A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background is equal to or less than the values in Table 1.**

TABLE 1

ACCEPTABLE SURFACE CONTAMINATION¹ LEVELS

	<u>AVERAGE^{2,3,6}</u>	<u>MAXIMUM^{2,4,6}</u>	<u>REMOVABLE^{2,3,5,6}</u>
<u>Alpha</u>	<u>15,000 dpm/100 cm²</u>	<u>15,000 dpm/100cm²</u>	<u>1,000 dpm/100 cm²</u>
<u>Beta-gamma</u>	<u>5,000 dpm/100 cm²</u>	<u>15,000 dpm/100cm²</u>	<u>1,000 dpm/100 cm²</u>

¹ Where surface contamination by both alpha and beta-gamma emitting nuclides exists, the limits established for alpha and beta-gamma emitting nuclides should apply independently.

² As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

³ Measurements of average contamination level should not be averaged over more than one square meter. For objects of less surface area, the average should be derived for each object.

⁴ The maximum contamination level applies to an area of not more than 100 cm².

⁵ The amount of removable radioactive material per 100 cm² of surface area should be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of surface area A (where A is less than 100 sq. cm) is determined, the entire surface should be wiped and the contamination level multiplied by 100/A to convert to a "per 100 sq. cm" basis.

⁶ The average and maximum radiation levels associated with surface contamination resulting from beta-gamma emitters should not exceed 2μGy/hr (0.2 mrad/hr) at 1 cm and 10 μGy/hr (1.0 mR/hr) at 1 cm, respectively, measured through not more than 7 milligrams per square centimeter of total absorber.

ARTICLE 5. INDUSTRIAL RADIOGRAPHY OPERATIONS

R12-1-502. Radiographic Equipment Standards and Equipment Failure Notification Specific License for Industrial Radiography

- A.** Each registrant shall ensure that each x-ray machine has a lock designed to prevent unauthorized use or accidental production of radiation and is kept locked at all times except when under the direct surveillance of a radiographer or radiographer's assistant.
- B.** Exposure devices shall:
1. Have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from the shielded position; and
 2. Be kept locked when not under the direct surveillance of a radiographer or radiographer's assistant unless alternate safety measures approved by the RSO are followed.
- C.** Source storage containers and source changers shall:
1. Have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position; and
 2. Be kept locked if they contain sealed sources, unless they are under the direct surveillance of a radiographer or a radiographer's assistant.
- D.** Equipment used in industrial radiographic operations shall meet the following minimum criteria:
1. Each radiographic exposure device, sealed source, and all associated equipment shall meet the requirements specified in American National Standards Institute Publication N43.9-1991 (previously N432-1980) "American National Standard for Gamma Radiography Specifications for Design and Testing Apparatus," 1991 Edition, published October 24, 1991 by the American National Standards Institute, incorporated by reference and on file with the Agency and the Office of Secretary of State. This incorporation by reference contains no future editions or amendments. The incorporated material may be purchased from the American National Standards Institute, Inc., 1430 Broadway, New York, New York, 10018.
 2. In addition to the requirements specified in subsection (D)(1), the following requirements apply to radiographic exposure devices and associated equipment:
 - a. The licensee shall have available for review documented proof that each device and associated equipment meets the requirements of R12-1-502(D)(1);
 - b. The licensee shall ensure that each radiographic exposure device has attached to it, a durable, legible, clearly visible label bearing the:
 - i. Chemical symbol and mass number of the radionuclide in the device;
 - ii. Activity and the date on which this activity was last measured;
 - iii. Model number and serial number of the sealed source;
 - iv. Manufacturer of the sealed source; and
 - v. Licensee's name, address, and telephone number.
 - c. The licensee shall ensure that radiographic exposure devices intended for use as Type B transport containers meet the applicable requirements of 10 CFR 71.51, 2000 Edition, published January 1, 2000, by the Office of the Federal Register, National Archives and Records Administration, incorporated by reference and on file with the Agency and the Office of Secretary of State. This incorporation by reference contains no future editions or amendments.
 - d. Modification of radiographic exposure devices and associated equipment is prohibited unless the design of any replacement component, including source holder, source assembly, controls, or guide tubes would not compromise the design safety features of the system.
 3. In addition to the requirements specified in subsections (D)(1) and (D)(2), the following requirements apply to radiographic exposure devices and associated equipment that allow the source to be moved out of the device for routine radiographic operations:
 - a. The coupling between the source assembly and the control cable shall be designed so that the source assembly will not become disconnected if positioned outside the guide tube. The coupling shall be constructed so that it cannot be unintentionally disconnected under normal and reasonably foreseeable abnormal conditions.
 - b. The device shall automatically secure the source assembly when it is retrieved back into the fully shielded position within the device. This securing system shall only be released by means of a deliberate operation on the exposure device.
 - c. The outlet fittings, lock box, and drive cable fittings on each radiographic exposure device shall be equipped with safety plugs or covers that shall be installed during storage and transportation to protect the source assembly from water, mud, sand, or other foreign matter.
 - d. Each sealed source or source assembly shall have attached to it or engraved in it, a durable, legible, visible label with the words: "DANGER RADIOACTIVE". The label shall not interfere with the safe operation of the exposure device or associated equipment.

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- e. The guide tube shall have passed the crushing tests for the control tube as specified in ANSI N43.9-1991 and a kinking resistance test that closely approximates the kinking forces likely to be encountered during use.
 - f. Guide tubes shall be used when moving the source out of the device.
 - g. An exposure head or similar device designed to prevent the source assembly from passing out the end of the guide tube shall be attached to the outermost end of the guide tube during radiographic operations.
 - h. The guide tube exposure head connection shall be able to withstand the tensile test for control units specified in ANSI N43.9-1991.
 - i. Source changers shall provide a system of ensuring that the source will not be accidentally withdrawn from the changer when connecting or disconnecting the drive cable to or from a source assembly.
 - j. All newly manufactured radiographic exposure devices and associated equipment acquired by licensees after January 10, 1992, shall comply with the requirements of this Section.
 - k. All radiographic exposure devices and associated equipment in use after January 10, 1996, shall comply with the requirements of this Section.
- E.** In addition to the notification requirements in Article 4, each licensee or registrant shall submit a written report within 30 days to the Agency whenever one or more of the following equipment failures occurs:
- 1. A source assembly cannot be returned to the fully shielded position and properly secured;
 - 2. A source assembly is unintentionally disconnected from the drive cable;
 - 3. Any component critical to safe operation of the radiographic exposure device fails to properly perform its intended function;
 - 4. An indicator on a radiation producing machine fails to show that radiation is being produced, an exposure switch fails to terminate production of radiation when turned to the off position, or a safety interlock fails to terminate X-ray production; or
 - 5. Personnel overexposure submitted under R12-1-444, involving failure of safety components of radiography exposure devices, source storage containers, or source changers.
- F.** Each report required in subsection (E) shall contain the following information:
- 1. A description of the equipment problem;
 - 2. Cause of each incident, if known;
 - 3. Manufacturer and model number of equipment involved in the incident;
 - 4. Location, time, and date of the incident;
 - 5. Actions taken to regain normal operations;
 - 6. Corrective actions taken or planned to prevent recurrence; and
 - 7. Names of personnel involved in the incident.

An application for a specific license for the use of radioactive material in industrial radiography will be approved if the applicant meets the following requirements:

- 1. The applicant satisfies the general requirements specified in R12-1-309 and any special requirements contained in this Article.
- 2. The applicant submits an adequate program for training radiographers and radiographers' assistants that meets the requirements of R12-1-543.
 - a. After the publication date of these rules, a license applicant need not describe its initial training and examination program for radiographers in the subjects outlined in R12-1-543(G).
 - b. An applicant may affirm that all individuals acting as industrial radiographers will be certified in radiation safety by a certifying entity before commencing duty as radiographers. This affirmation substitutes for a description of its initial training and examination program for radiographers in the subjects outlined in R12-1-543(G).
 - c. The applicant submits procedures for verifying and documenting the certification status of radiographers and for ensuring that the certification of individuals acting as radiographers remains valid.
- 3. The applicant submits written operating and emergency procedures as described in R12-1-522.
- 4. The applicant submits a description of a program for inspections of the job performance of each radiographer and radiographers' assistant at intervals not to exceed six months as described in R12-1-543(E).
- 5. The applicant submits a description of the applicant's overall organizational structure as it applies to the radiation safety responsibilities in industrial radiography, including specified delegation of authority and responsibility.
- 6. The applicant identifies and lists the qualifications of the individual(s) designated as the RSO (R12-1-512) and potential designees responsible for ensuring that the licensee's radiation safety program is implemented in accordance with approved procedures.
- 7. If an applicant intends to perform leak testing of sealed sources or exposure devices containing depleted uranium (DU) shielding, the applicant shall describe the procedures for performing and the qualifications of the person(s) authorized to do the leak testing. If the applicant intends to analyze its own wipe samples, the application shall include a description of the procedures to be followed. The description shall include the:
 - a. Instruments to be used;
 - b. Methods of performing the analysis; and

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- c. Pertinent experience of the person who will analyze the wipe samples.
8. If the applicant intends to perform "in-house" calibrations of survey instruments the applicant shall describe methods to be used and the relevant experience of the person(s) who will perform the calibrations. All calibrations shall be performed according to the procedures described and at the intervals prescribed in R12-1-504.
9. The applicant identifies and describes the location(s) of all field stations and permanent radiographic installations.
10. The applicant identifies the locations where all records required by Agency rules will be maintained.

R12-1-503. Storage precautions Performance Requirements for Industrial Radiography Equipment

Locked radiographic exposure devices, source changers, storage containers, and x-ray machines shall be physically secured to prevent tampering or removal by unauthorized persons.

Equipment used in industrial radiographic operations shall meet the following minimum criteria:

- A.** Each radiographic exposure device, source assembly or sealed source, and all associated equipment shall meet the requirements specified in American National Standards Institute, N432-1980 Radiological Safety for the Design and construction of Apparatus for Gamma Radiography 1980 Edition, published as NBS Handbook 136, issued January 1981 by the American National Standards Institute, incorporated by reference and on file with the Agency and the Office of Secretary of State. This incorporation by reference contains no future editions or amendments. This publication may be purchased from the American National Standards Institute, Inc., 1430 Broadway, New York, New York 10018 Telephone (212) 642-4900; or
- B.** Engineering analysis may be submitted by an applicant or licensee to demonstrate the applicability of previously performed testing on similar individual radiography equipment components. Upon review, the Agency may find this an acceptable alternative to actual testing of the component pursuant to the above referenced standard.
- C.** In addition to the requirements specified in subsection (A) the following requirements apply to radiographic exposure devices, source changers, source assemblies and sealed sources:
 1. The licensee shall ensure that each radiographic exposure device has attached to it a durable, legible, and clearly visible label bearing:
 - a. The chemical symbol and mass number of the radionuclide in the device;
 - b. The activity and the date on which this activity was last measured;
 - c. The model (or product code) and serial number of the sealed source;
 - d. The manufacturer's identity of the sealed source; and
 - e. The licensee's name, address, and telephone number.
 2. Radiographic exposure devices intended for use as Type B transport containers shall meet the applicable requirements of 10 CFR 71, 2003 Edition, published January 1, 2003, by the Office of the Federal Register National Archives and Records Administration, incorporated by reference and on file with the Agency and the Office of Secretary of State. This incorporation by reference contains no future editions or amendments.
 3. Modification of radiographic exposure devices, source changers, and source assemblies and associated equipment is prohibited, unless the design of any replacement component, including source holder, source assembly, controls, or guide tubes would not compromise the design safety features of the system.
- D.** In addition to the requirements specified in subsection (A) and (B), the following requirements apply to radiographic exposure devices, source assemblies, and associated equipment that allow the source to be moved out of the device for radiographic operations or to source changers.
 1. The coupling between the source assembly and the control cable shall be designed in such a manner that the source assembly will not become disconnected if positioned outside the guide tube. The coupling shall be constructed in such a manner that an unintentional disconnect will not occur under normal and reasonably foreseeable abnormal conditions.
 2. The device shall automatically secure the source assembly when it is retracted back into the fully shielded position within the device. This securing system may only be released by means of a deliberate operation on the exposure device.
 3. The outlet fittings, lock box, and drive cable fittings on each radiographic exposure device shall be equipped with safety plugs or covers which shall be installed during storage and transportation to protect the source assembly from water, mud, sand, or other foreign matter.
 4. Each sealed source or source assembly shall have attached to it or engraved on it, a durable, legible, visible label with the words: "DANGER--RADIOACTIVE". The label may not interfere with the safe operation of the exposure device or associated equipment.
 5. The guide tube shall be able to withstand a crushing test that closely approximates the crushing forces that are likely to be encountered during use, and be able to withstand a kinking resistance test that closely approximates the kinking forces that are likely to be encountered during use.
 6. Guide tubes shall be used when moving the source out of the device.
 7. An exposure head or similar device designed to prevent the source assembly from passing out of the end of the guide tube shall be attached to the outermost end of the guide tube during industrial radiography operations.

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- 8. The guide tube exposure head connection shall be able to withstand the tensile test for control units specified in ANSI N432-1980.
- 9. Source changers shall provide a system for ensuring that the source will not be accidentally withdrawn from the changer when connecting or disconnecting the drive cable to or from a source assembly.
- E.** All radiographic exposure devices and associated equipment in use after January 10, 1996, shall comply with the requirements of this Section.
- F.** Notwithstanding subsection (A) equipment used in industrial radiographic operations need not comply with Sec. 8.92(c) of the Endurance Test in American National Standards Institute N432-1980, if the prototype equipment has been tested using a torque value representative of the torque that an individual using the radiography equipment can realistically exert on the lever or crankshaft of the drive mechanism.
- G.** Each x-ray machine shall have a lock or other security system designed to prevent unauthorized use or accidental production of radiation, and each x-ray machine shall be secured against unauthorized use at all times, except when under the direct surveillance of a radiographer or radiographer's assistant, or otherwise required by R12-1-541.

R12-1-504. Radiation Survey Instruments

- A.** A licensee or registrant shall maintain sufficient calibrated and operable radiation survey instruments to make physical radiation surveys required by this Article and Article 4 of this Chapter. Instrumentation required by this Article shall have a range that allows 20 microsievert (2 millirem) per hour through 10 millisievert (1 rem) per hour to be measured.
- B.** Each radiation survey instrument shall be calibrated:
 - 1. Based on the scales and associated energies at which the meter will be used and at intervals not to exceed:
 - a. Three months and after each instrument servicing for instruments used in radiographic operations utilizing sealed sources, or
 - b. One year for instruments used in radiographic operations utilizing only x-ray machines;
 - 2. So that accuracy within plus or minus 20% of the calibration source can be demonstrated; and
 - 3. For linear scale instruments, at two points located approximately 1/3 and 2/3 of full scale on each scale; for logarithmic scale instruments, at mid-range of each decade, and at two points of at least one decade; and for digital instruments, at three points between 0.02 and 10 mSv (2 and 1000 mRem) per hour.
- C.** Records of the calibrations shall be retained for three years after the calibration date.
- A.** Each licensee and registrant shall keep sufficient calibrated and operable radiation survey instruments at each location where sources of radiation are present to make the radiation surveys required by this Article and Article 4 of this Chapter. Instrumentation required by this Section shall be capable of measuring a range from 0.02 millisieverts (2 millirems) per hour through 0.01 sievert (1 rem) per hour.
- B.** Each licensee and registrant shall have the radiation survey instrument required under subsection (A) calibrated:
 - 1. At intervals not to exceed six months and after instrument servicing, except for battery changes;
 - 2. For linear scale instruments, at two points located approximately one-third and two-thirds of full-scale on each scale; for logarithmic scale instruments, at mid-range of each decade, and at two points of at least one decade; and for digital instruments, at 3 points between 0.02 and 10 millisieverts (2 and 1000 millirems) per hour; and
 - 3. So that an accuracy within plus or minus 20% of the calibration source can be demonstrated at each point checked.
- C.** Each licensee and registrant shall maintain records of the calibrations of its radiation survey instruments. Each record shall be maintained for three years after it is made.

R12-1-505. ~~Leak Testing, Repair, Tagging, Opening, Modification, and Replacement of Sealed Sources~~ Leak Testing and Replacement of Sealed Sources

- A.** A licensee shall ensure that the replacement of any sealed source fastened to or contained in a radiographic exposure device and the leak testing, repair, tagging, opening, or modification of any sealed source is performed by persons specifically licensed to do so by the Agency, the U.S. Nuclear Regulatory Commission, or an Agreement or Licensing State.
- B.** Each sealed source shall be tested for leakage at intervals not to exceed six months. In the absence of a certificate from a transferor that a test has been made within the six months before the transfer, the sealed source shall not be used until it is tested.
- C.** The leak test shall be capable of detecting the presence of 185 becquerel (0.005 microcurie) of removable contamination. The leak test for a sealed source in a radiographic exposure device or source changer shall consist of swab testing the exit port using a procedure submitted in detail as part of the license application. Records of leak test results shall be kept in units of microcuries or becquerel and maintained for three years after the leak test is performed.
- D.** Any leak test that reveals the presence of removable contamination in excess of the amount specified in subsection (C) shall be considered evidence that the sealed source is leaking. The licensee shall immediately withdraw the equipment involved from use and decontaminate, repair, or dispose of it in accordance with this Chapter. The licensee shall file a report with the Agency within five days after receiving the results of the test, describing the equipment involved, the test results, and the corrective action taken.
- E.** Each radiographic exposure device using depleted uranium (DU) shielding and an "S" tube configuration shall be tested

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for DU contamination at intervals not to exceed 12 months. The analysis shall be performed in accordance with subsections (A) and (C). Should leak testing reveal the presence of 185 Bq (0.005 microcuries) or more of removable DU contamination, the exposure device shall be removed from service until an evaluation of the wear on the S-tube has been conducted. The exposure device shall not be used if the evaluation reveals that the S-tube is worn through. DU shielded exposure devices do not have to be tested for DU contamination while in storage. However, before using or transferring a radiographic exposure device, the device shall be tested for DU contamination if it has been stored for more than 12 months. Records of the DU leak test shall be maintained in accordance with subsection (C). Licensees will have three months from the effective date of this rule to comply with the DU leak testing requirements in this subsection.

- F.** A sealed source that is not fastened to or contained in a radiographic exposure device or source changer shall have permanently attached to it a durable tag at least 2.5 centimeters (1 inch) square bearing the prescribed radiation caution symbol in conventional colors, magenta or purple on a yellow background, and at least the instructions: “DANGER RADIOACTIVE MATERIAL – DO NOT HANDLE – NOTIFY CIVIL AUTHORITIES IF FOUND”
- A.** The replacement of any sealed source fastened to or contained in a radiographic exposure device and leak testing of any sealed source shall be performed by persons authorized to do so by the Agency, NRC, or another Agreement State.
- B.** The opening, repair, or modification of any sealed source shall be performed by persons specifically authorized to do so by the Agency, NRC, or another Agreement State.
- C.** A licensee who uses a sealed source shall have the source tested for leakage at intervals not to exceed six months. The leak testing of the source shall be performed using a method approved by the Agency, NRC, or by another Agreement State. The wipe sample should be taken from the nearest accessible point to the sealed source where contamination might accumulate. The wipe sample shall be analyzed for radioactive contamination. The analysis shall be capable of detecting the presence of 185 Bq (0.005 microcurie) of radioactive material on the test sample and shall be performed by a person specifically authorized by the Agency, NRC, or another Agreement State to perform the analysis. The licensee shall maintain records of the leak tests in accordance with R12-1-505.
- D.** Unless a sealed source is accompanied by a certificate from the transferor that shows that it has been leak tested within six months before the transfer, it may not be used by the licensee until tested for leakage. Sealed sources that are in storage and not in use do not require leak testing, but shall be tested before use or transfer to another person if the interval of storage exceeds six months.
- E.** Any test conducted pursuant to subsections (B) and (C) of this Section which reveals the presence of 185 Bq (0.005 microcurie) or more of removable radioactive material shall be considered evidence that the sealed source is leaking. The licensee shall immediately withdraw the equipment involved from use and shall have it decontaminated and repaired or disposed of in accordance with Agency rules. A report shall be filed with the Director of the Agency, within days days of any test with results that exceed the threshold in this subsection, describing the equipment involved, the test results, and the corrective action taken.
- F.** An exposure device using depleted uranium (DU) shielding and an “S” tube configuration shall be tested for DU contamination at intervals not to exceed 12 months. The analysis shall be capable of detecting the presence of 185 Bq (0.005 microcuries) of radioactive material on the test sample and shall be performed by a person specifically authorized by the Commission or an Agreement State to perform the analysis. Should such testing reveal the presence of 185 Bq (0.005 microcuries) or more of removable DU contamination, the exposure device shall be removed from use until an evaluation of the wear on the S-tube has been made. Should the evaluation reveal that the S-tube is worn through, the device may not be used again. DU shielded devices do not have to be tested for DU contamination while in storage and not in use. Before using or transferring such a device however, the device shall be tested for DU contamination if the interval of storage exceeded 12 months. A record of the DU leak-test shall be made in accordance with Sec. 34.67.
- G.** A licensee shall maintain records of leak test results for sealed sources and for devices containing DU. The results shall be stated in units of becquerels (microcuries). A licensee shall retain each record for three years after it is made or until the source is removed from storage.

R12-1-506. Quarterly Inventory

Each licensee or registrant shall conduct a quarterly physical inventory to account for all sources of radiation received or possessed. The records of the inventories shall be retained for three years from the date of the inventory and shall show for each source the associated radioactivity, the kind of radioactive material, the number and models of x-ray machines, if applicable, the location of all sources of radiation, the date of the inventory, and the signature of the individual performing the inventory.

- A.** Each licensee and registrant shall conduct a quarterly physical inventory to account for all sealed sources, devices containing depleted uranium, and x-ray machines received and possessed under the license or registrant.
- B.** Each licensee and registrant shall maintain records of the quarterly inventory required under subsection (A) for three years after it is made.
- C.** The record required in subsection (B) shall include the date of the inventory, name of the individual conducting the inventory, radionuclide, number of becquerels (curies) or mass (for DU) in each device, location of sealed source and associated devices, or location of x-ray machine if appropriate, and manufacturer, model, and serial number of each sealed source and device as appropriate.

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R12-1-507. Utilization Logs

Each licensee or registrant shall maintain current logs, which shall be retained for three years from the date of the recorded event and which show the following information for each source of radiation:

1. A description, including make, model, and serial number of each radiographic exposure device or storage container in which a source of radiation is located;
2. The identity of the radiographer to whom the source of radiation is assigned;
3. Locations where the source of radiation was used and dates of use; and
4. The voltage, current, and exposure time for each radiographic exposure employing an x-ray machine.

A. Each licensee and registrant shall maintain utilization logs showing for each sealed source or x-ray machine the following information:

1. A description, including the make, model, and serial number of the x-ray machine or radiographic exposure device or transport or storage container in which the sealed source is located;
2. The identity and signature of the radiographer to whom assigned; and
3. The plant or site where used and dates of use, including the dates removed and returned to storage.

B. Each licensee and registrant shall retain the logs required by subsection (A) for three years after the log is created.

R12-1-508. Inspection and Maintenance of Radiographic Exposure Devices, Transport and Storage Containers, Associated Equipment, Source Changers, and Survey Instruments

A. Each licensee shall perform visual and operability checks on radiographic exposure devices, transport and storage containers, associated equipment, source changers, and survey instruments or damage to before use each day the equipment is used. Survey instrument operability checks shall performed using a check source.

B. Each licensee shall perform inspection and maintenance on radiographic exposure devices, transport and storage containers, associated equipment, source changers, and survey instruments at intervals not to exceed three months and before their initial use to ensure proper functioning of components important to safety. All parts shall be maintained in accordance with the licensee's written procedures and manufacturer's specifications. Records of inspection and maintenance shall be retained for three years from the date the record is made.

C. If any inspection reveals defects or damage to components critical to radiation safety, the radiographic exposure devices, transport and storage containers, associated equipment, source changers, or survey instruments shall be removed from service until repairs have been made.

A. The licensee or registrant shall perform visual and operability checks on survey meters, radiographic exposure devices, transport and storage containers, associated equipment and source changers before use on each day the equipment is to be used to ensure that the equipment is in good working condition, that the sources are adequately shielded, and that required labeling is present. Survey instrument operability shall be performed using check sources or other appropriate means. If equipment problems are found, the equipment shall be removed from service until repaired.

B. Each licensee or registrant shall have written procedures for:

1. Inspection and routine maintenance of radiographic exposure devices, source changers, associated equipment, transport and storage containers, and survey instruments at intervals not to exceed three months or before the first use thereafter to ensure the proper functioning of components important to safety. Replacement components shall meet design specifications. If equipment problems are found, the equipment shall be removed from service until repaired.
2. The inspection and maintenance program shall include procedures to assure that Type B packages are shipped and maintained in accordance with the certificate of compliance or other approval.

C. A licensee or registrant shall maintain records of equipment problems found in daily checks and quarterly inspections of radiographic exposure devices, transport and storage containers, associated equipment, source changers, and survey instruments; and retain each record for three years after it is made. The record shall include the date of check or inspection, name of inspector, equipment involved, any problems found, and what repair and needed maintenance, if any, was done.

R12-1-509. Permanent Radiographic Installations Surveillance

A licensee or registrant shall ensure that a permanent radiographic installation having high radiation area entrance controls of the types described in R12-1-420(A) meets the following requirements:

1. Each entrance that is used for personnel access to the high radiation area in a permanent radiographic installation shall have both visible and audible warning signals to warn persons of the presence of radiation. The visible signal shall be activated by radiation whenever the source is exposed. The audible signal shall be activated by an attempt to enter the installation while the source is exposed; and
2. The control device or alarm system shall be tested for proper operation at the beginning of each workday the installation is used. Records of the tests shall be retained for three years from the date the record is made.

During each radiographic operation the radiographer, or the other individual present, as required by R12-1-510, shall maintain continuous direct visual surveillance of the operation to protect against unauthorized entry into a high radiation area, as defined in R12-1-102, except at permanent radiographic installations where all entry ways are locked and the requirements of R12-1-539 are met.

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R12-1-510. Operating Personnel Conducting Industrial Radiographic Operations

Each licensee and registrant shall provide, at least, two radiographic personnel for each radiographic exposure device in use for any industrial radiography conducted at a location other than at a permanent radiographic installation (shielded room, bay, or bunker) meeting the requirements of R12-1-509(1). If one of the personnel is a radiographer's assistant, the other shall be a certified radiographer authorized by the license.

- A.** Whenever radiography is performed at a location other than a permanent radiographic installation, the radiographer shall be accompanied by at least one other qualified radiographer or an individual who has at a minimum met the requirements of R12-1-543(C). The additional qualified individual shall observe the operations and be capable of providing immediate assistance to prevent unauthorized entry. Radiography may not be performed if only one qualified individual is present.
- B.** All radiographic operations conducted at locations of use authorized on a license or registration shall be conducted in a permanent radiographic installation, unless specifically authorized by the Agency.

R12-1-511. License and Registration Application for Industrial Radiography Repealed

If a licensee has satisfied the licensing requirements in R12-1-309, the Agency shall issue a specific license or registration for industrial radiography if:

1. The applicant has a program to provide the instruction specified in R12-1-521 for radiographers and if applicable, a program to provide instruction to enclosed radiography x-ray machine operators. The applicant shall submit to the Agency a schedule or description of the training program that specifies the:
 - a. Initial training;
 - b. Periodic training;
 - c. On-the-job training; and
 - d. Means of testing to be used by the licensee or registrant to determine a radiographer's or assistant radiographer's knowledge and understanding of, and ability to comply with, the Agency's rules and licensing requirements, and the operating and emergency procedures of the applicant.
2. The applicant has established and submits to the Agency written operating and emergency procedures to fulfill the requirements of this Chapter.
3. The applicant has an internal inspection program adequate to ensure that Agency rules, Agency license and registration provisions, and the applicant's operating and emergency procedures are followed by radiographers and radiographers' assistants, and enclosed radiography x-ray machine operators. The inspection program shall include internal inspections at intervals not to exceed three months and inspection record retention for two years.
4. The applicant submits to the Agency a description of the overall organizational structure of the instruction program, including specified delegations of authority and responsibility for operation of the program.
5. The sealed source radiographer applicant who desires to conduct leak tests has established procedures to be followed in leak testing sealed sources for possible leakage and contamination and submits to the Agency a description of the procedures including:
 - a. Instrumentation to be used;
 - b. Method of performing tests, for example, points on equipment to be smeared and method of taking smear; and
 - c. Pertinent experience of the person who will perform the test; and
6. The applicant complies with appropriate provisions of this Article and Article 3.

R12-1-512. Radiation Safety Officer (RSO)

- A.** ~~Each licensed or registered industrial radiography operation shall have a Radiation Safety Officer. The Radiation Safety Officer (RSO) shall oversee radiation safety activities to ensure they are being performed in accordance with state statutes and rules.~~
- B.** ~~The minimum qualifications, training, and experience for an industrial radiography RSO are as follows:~~
1. ~~Completion of the training and testing requirements in R12-1-521;~~
 2. ~~Completion of one year (2000 hours) of practical experience as a qualified radiographer in industrial radiographic operations; and~~
 3. ~~Completion of training approved by the Agency in the establishment and maintenance of a radiation safety program.~~
- C.** ~~The Agency shall consider a candidate if the candidate has training and experience in the field of ionizing radiation, differing from the training and experience in subsection (B), and has had formal training with respect to the establishment and maintenance of a radiation safety program.~~
- D.** ~~An RSO shall:~~
1. ~~Establish, oversee, and review all operating, emergency, and ALARA procedures as required by R12-1-407;~~
 2. ~~Oversee and approve all phases of the training program for radiography personnel, ensuring that appropriate and effective radiation protection practices are taught;~~
 3. ~~Ensure that required radiation surveys and leak tests are performed and documented in accordance with these rules and take corrective measures if levels of radiation exceed established limits;~~
 4. ~~Ensure that personnel monitoring devices are calibrated and used properly by occupationally exposed personnel, that~~

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- records are kept of the monitoring results, and that timely notifications are made as required by R12-1-444; and
5. Ensure that operations are conducted safely and institute corrective actions, including cessation of operations when necessary.
- E.** Licensees and registrants have six months from July 1, 2001, to meet the requirements of subsections (B) and (C).
- A.** Each licensee and registrant shall have an RSO who will ensure that radiation safety activities are being performed in accordance with approved procedures and regulatory requirements in the daily operation of the licensee's program.
- B.** The minimum qualifications, training, and experience for RSOs for industrial radiography are as follows:
1. Completion of the training and testing requirements of R12-1-543;
 2. 2000 hours of hands-on experience as a qualified radiographer in industrial radiographic operations; and
 3. Formal training in the establishment and maintenance of a radiation protection program.
- C.** The Agency shall consider alternatives when the RSO has appropriate training and/or experience in the field of ionizing radiation, and in addition, has adequate formal training with respect to the establishment and maintenance of a radiation safety protection program.
- D.** The specific duties and authorities of the RSO include, but are not limited to:
1. Establishing and overseeing all operating, emergency, and ALARA procedures as required in Article 4 of this Chapter, and reviewing them regularly to ensure that the procedures in use conform to current Agency rules and to the license conditions.
 2. Overseeing and approving all phases of the training program for radiographic personnel, ensuring that appropriate and effective radiation protection practices are taught;
 3. Overseeing radiation surveys and leak tests and associated documentation to ensure that the surveys and tests are performed in accordance with the rules, including any corrective measures when levels of radiation exceed established action limits;
 4. Overseeing the personnel monitoring program to ensure that devices are calibrated and used properly by occupationally-exposed personnel, that records are kept of the monitoring results, and that timely notifications are made as required by R12-1-444; and
 5. Overseeing all operations to ensure they are conducted safely and assuming control for instituting corrective actions including stopping of operations when necessary.

R12-1-513. ~~Repealed Form of Records~~

Records shall be maintained in accordance with R12-1-405.

R12-1-515. ~~Repealed Locking of Radiographic Exposure Devices, Storage Containers and Source Changers~~

- A.** Each radiographic exposure device shall have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The exposure device and its container, if applicable, shall be kept locked (and if a keyed-lock, with the key removed at all times) when not under the direct surveillance of a radiographer or a radiographer's assistant except at permanent radiographic installations as stated in R12-1-539. In addition, during radiographic operations the sealed source assembly shall be secured in the shielded position each time the source is returned to that position.
- B.** Each sealed source storage container and source changer shall have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. Storage containers and source changers shall be kept locked (and if a keyed-lock, with the key removed at all times) when containing sealed sources except when under the direct surveillance of a radiographer or a radiographer's assistant.

R12-1-516. ~~Repealed Records of Receipt and Transfer of Sealed Sources~~

- A.** Each licensee shall maintain records showing the receipts and transfers of sealed sources and devices using DU for shielding and retain each record for three years after it is made.
- B.** These records shall include the date, the name of the individual making the record, radionuclide, number of becquerels (curies) or mass (for DU), and manufacturer, model, and serial number of each sealed source and/or device, as appropriate.

R12-1-517. ~~Repealed Posting~~

All areas in which industrial radiography is being performed shall be conspicuously posted as required by R12-1-429. Exceptions listed in R12-1-430 do not apply to industrial radiographic operations.

**R12-1-521. ~~Radiographer and Radiographer's Assistant Qualifications, Radiographer Certification, and Audits~~
~~Repealed~~**

- A.** A licensee or registrant shall not permit any individual to act as a radiographer until the individual:
- i. Has been instructed in the following subjects:
 - a. Fundamentals of radiation safety;
 - i. Characteristics of gamma, neutron, and x radiation
 - ii. Units of dose and activity

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- iii. Significance of radiation dose, radiation protection standards, and biological effects of radiation;
 - iv. Levels of radiation from sources of radiation
 - v. Methods of controlling radiation dose by minimizing working time, maximizing working distance, and use of shielding;
 - b. Radiation detection instrumentation to be used;
 - i. Use of radiation survey instruments, including their operation, calibration, and limitations;
 - ii. Survey techniques
 - iii. Use of personnel monitoring equipment, including film badges, thermoluminescent dosimeters, alarm rate meters, and direct reading dosimeters;
 - e. Radiographic equipment to be used;
 - i. Remote handling equipment
 - ii. Radiographic exposure devices and sealed sources
 - iii. Storage containers and source changers
 - iv. Operation and control of x-ray equipment
 - d. Requirements of federal regulations and state rules;
 - e. The licensee's or registrant's written operating and emergency procedures;
 - f. Case histories of radiography accidents; and
2. Has received copies of this Article, Articles 4, and 10, the license or certificate of registration, and the licensee's or registrant's operating and emergency procedures; and
 3. Has demonstrated competence to use the source of radiation, related handling tools, and survey instruments which will be employed in his or her assignment; and
 4. Has demonstrated understanding of the requirements in this subsection by successful completion of a written test, approved by the Agency in accordance with R12-1-511, with a score of 70% or better and a field examination with a score of 100% on the subjects covered.
- B.** The licensee or registrant shall not permit any individual to act as a radiographer's assistant until the individual:
1. Has received copies of and instructions in the licensee's or registrant's operating and emergency procedures; and
 2. Has demonstrated competence to use under the personal supervision of the radiographer the sources of radiation, related handling tools, and radiation survey instruments which will be employed in the assignment; and
 3. Has demonstrated understanding of the requirements in this subsection by successful completion of a written or oral test, approved by the Agency in accordance with R12-1-511, with a score of 70% or better and a field examination with a score of 100% on the subjects covered.
- C.** A licensee or registrant shall not permit an individual to act as an industrial radiographer until the individual is certified by passing the certification examination provided by the Conference of Radiation Control Program Directors (CRCPD), or any other radiographer certification examination the Agency deems equivalent. The licensee or registrant shall provide the Agency with proof of a candidate's passing score on the certification examination if the licensee or registrant is requesting that the candidate be added as an authorized user, and the proof of a passing score shall be maintained at the job site where a radiographer is performing field radiography. An uncertified individual may act as a radiographer until October 1, 2001. After October 1, 2001, an individual is no longer authorized to use radioactive material unless the individual is certified under this subsection.
- D.** Each licensee or registrant shall retain records of training and testing which demonstrate that the requirements of this rule are met for each radiographer and radiographer's assistant.
- E.** Each licensee or registrant shall conduct an internal audit program to ensure that the rules of this Chapter, the conditions of the license, and the operating and emergency procedures are followed by each radiographer and radiographer's assistant. The audit program shall include:
1. The observation of the performance of each radiographer and radiographer's assistant during an actual radiographic operation at intervals not to exceed three months;
 2. A provision that, if a radiographer or a radiographer's assistant has not participated in a radiographic operation for more than three months since the last audit, that individual's performance must be observed and recorded the next time the individual participates in a radiographic operation; and
 3. The retention of inspection records on the performance of radiographers or radiographers' assistants for three years.

R12-1-522. Operating and Emergency Procedures

A licensee's or registrant's operating and emergency procedures shall include, at a minimum, the following instructions:

1. Methods used to maintain individual radiation exposure below the limits in Article 4, "Standards for Protection Against Radiation" when handling and using sources of radiation;
2. Methods and occasions for conducting radiation surveys;
3. Methods for controlling access to radiographic areas;
4. Methods and occasions for locking and securing radiographic exposure devices and storage containers;
5. Personnel monitoring and the use of personnel monitoring equipment, including steps that must be taken immediately

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- by radiography personnel in the event a pocket dosimeter is found to be off-scale;
- 6. ~~Transportation to field locations, including packing of sources of radiation and storage containers in the vehicles, posting and placarding of vehicles, and control of sources of radiation during transportation;~~
- 7. ~~Minimizing the exposure of individuals in the event of an accident;~~
- 8. ~~The procedure for notifying the Agency in the event of an accident;~~
- 9. ~~Maintenance of records; and~~
- 10. ~~The inspection and maintenance of radiographic exposure devices, storage containers, and radiation machines.~~

A. Operating and emergency procedures shall include, as a minimum, instructions in the following:

- 1. Handling and use of sealed sources containing radioactive material and radiographic exposure devices, to include x-ray, as appropriate; so that no person is likely to be exposed to radiation in excess of the limits in Article 4 of this Chapter;
- 2. Methods and occasions for conducting radiation surveys;
- 3. Methods for controlling access to radiographic areas;
- 4. Methods and occasions for locking and securing x-ray machines, radiographic exposure devices, transport and storage containers and sealed sources;
- 5. Personnel monitoring and associated equipment;
- 6. Transporting sealed sources to field locations, including packing of radiographic exposure devices and storage containers in the vehicles, placarding of vehicles when needed, and control of the sealed sources during transportation as required in 49 CFR 171-173, 2002 Edition, published October 1, 2002, incorporated by reference and available on file with the Agency and the Office of the Secretary of State. This incorporation contains no future editions or amendments;
- 7. The inspection, maintenance, and operability checks of x-ray machines and radiographic exposure devices, survey instruments, transport containers, and storage containers;
- 8. Steps that shall be taken immediately by radiography personnel in the event a pocket dosimeter is found to be off-scale or an alarm ratemeter alarms unexpectedly.
- 9. The procedure(s) for identifying and reporting defects and noncompliance, as required by R12-1-448 and R12-1-535;
- 10. The procedure for notifying proper persons in the event of an accident;
- 11. Minimizing exposure of persons in the event of an accident;
- 12. Radioactive source recovery procedure if licensee will perform source recovery; and
- 13. Maintenance of records.

B. The licensee and registrant shall maintain copies of current operating and emergency procedures until the Agency terminates the license. Superseded material shall be maintained for three years after a record change is made. Additionally records shall be maintained in accordance with R12-1-540.

R12-1-523. Personnel Monitoring Control

A. ~~A licensee or registrant shall not permit any individual to act as a radiographer or as a radiographer's assistant unless, at all times during radiographic operations, each individual wears on the trunk of the body a direct reading pocket dosimeter, a film badge or a thermoluminescent dosimeter (TLD), and an alarm rate meter at all times during radiographic operations. For permanent radiographic installations where other appropriate alarm warning devices are in routine use, the wearing of an alarm rate meter is not required.~~

B. ~~Pocket Dosimeters:~~

- 1. ~~Pocket dosimeters shall:~~
 - a. ~~Meet the criteria in American National Standards Publication N13.5-1972, "Performance Specifications For Direct Reading and Indirect Reading Pocket Dosimeters for X- and Gamma Radiation," 1972 Edition, published December 9, 1971, by the American National Standards Institute, incorporated by reference and on file with the Agency and the Office of the Secretary of State. This incorporation by reference contains no future editions or amendments. The incorporated material may be purchased from the American National Standards Institute, Inc. 1430 Broadway, New York, New York, 10018.~~
 - b. ~~Have a range of 0 to 2 millisieverts (200 mRem).~~
- 2. ~~Pocket dosimeters shall be recharged at the start of each work shift.~~
- 3. ~~At a minimum, pocket dosimeters shall be recharged and initial use readings recorded:~~
 - a. ~~Immediately before checking out any source of radiation from an authorized storage location for the purpose of conducting industrial radiography operations; and~~
 - b. ~~Before beginning radiographic operations on any subsequent calendar day (if the source of radiation has not been checked back into an authorized storage location).~~
- 4. ~~If radiographic operations are concluded for the day, final use readings on pocket dosimeters shall be recorded and the accumulated occupational doses for that day determined and recorded.~~
- 5. ~~If an individual's pocket dosimeter is discharged beyond its range (for example, goes "off scale"), industrial radiography operations by that individual shall be discontinued until the individual's film badge or TLD has been processed.~~

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The individual shall not return to work with sources of radiation until a determination of the individual's radiation exposure has been made.

6. ~~Pocket dosimeters shall be checked for correct response to radiation at periods not to exceed 1 year. Acceptable dosimeters shall read within plus or minus 20% of the true radiation exposure. Records of pocket dosimeter response shall be maintained for three years after the record is made.~~
7. ~~Records of pocket dosimeter readings of personnel exposure shall be maintained for two years after the record is made. If the dosimeter readings were used to determine external radiation dose (for example, no film badge or TLD exposure records exist), the records shall be maintained according to R12-1-419.~~

C. ~~Film badges and TLDs:~~

1. ~~Each film badge or TLD shall be assigned to and worn by only 1 individual.~~
2. ~~Film badges and TLDs shall be replaced monthly. After replacement, each film badge or TLD shall be returned to the supplier for processing within 14 calendar days of the exchange date specified by the personnel monitoring supplier. If a film badge or TLD cannot be processed in 14 days, the circumstances resulting in the delay shall be documented and available for Agency review.~~
3. ~~If a film badge or TLD is lost or damaged, the worker affected shall cease work immediately until a replacement film badge or TLD is provided and the exposure is calculated for the time period from issuance to loss or damage.~~
4. ~~Records of film badge or TLD personnel monitoring shall be maintained according to R12-1-419.~~

D. ~~Alarm rate meters:~~

1. ~~Each alarm rate meter shall be tested to ensure that the audible alarm functions properly before use at the start of each work shift.~~
2. ~~Each alarm rate meter shall be set to give an alarm at a preset dose rate of 5 millisieverts/hr (500 mRem/hr).~~
3. ~~Each alarm rate meter shall require special means to change the preset alarm function.~~
4. ~~Each alarm rate meter shall be calibrated at periods not to exceed one year for correct response to radiation. Acceptable rate meters shall give an alarm within plus or minus 20% of the true radiation dose rate.~~
5. ~~Records of alarm rate meter calibration shall be maintained for two years for Agency inspection from the date the record is made.~~

A. An individual shall not act as a radiographer or a radiographer's assistant unless, at all times during radiographic operations, the individual wears, on the trunk of the body, a combination of direct reading dosimeter, an operating alarm rate-meter, and either a film badge, a TLD or an optically stimulated luminescence (OSL) dosimeter. At permanent radiography installations where other appropriate alarming or warning devices are in routine use, the wearing of an alarming ratemeter is not required.

1. Pocket dosimeters shall have a range from zero to 2 millisieverts (200 millirems) and shall be recharged at the start of each shift. Electronic personal dosimeters may only be used in place of ion-chamber pocket dosimeters.
2. Each film badge, TLD, and OSL dosimeter shall be assigned to and worn by only one individual.
3. Film badges shall be replaced at periods not to exceed one month and TLDs and OSL dosimeters shall be replaced at periods not to exceed three months.
4. After replacement, each film badge or TLD shall be processed as soon as possible.

B. Direct reading dosimeters such as pocket dosimeters or electronic personal dosimeters, shall be read and the exposures recorded at the beginning and end of each shift.

C. Pocket dosimeters, or electronic personal dosimeters, shall be checked at periods not to exceed 12 months for correct response to radiation. Acceptable dosimeters shall read within plus or minus 20% of the true radiation exposure.

D. If an individual's pocket dosimeter is found to be off-scale, or if the electronic personal dosimeter reads greater than 2 millisieverts (200 millirems), and the possibility of radiation exposure cannot be ruled out as the cause, the individual's film badge, TLD, or OSL dosimeter shall be sent for processing within 24 hours. In addition, the individual shall not be allowed to work with licensed radioactive material until a determination of the individual's radiation exposure has been made. This determination shall be made by the RSO or the RSO's designee. The results of this determination shall be included in the records maintained in accordance with subsection (G).

E. If a Agency approved dosimetry system is lost or damaged, the worker shall cease work immediately until a replacement film badge, TLD, or OSL dosimeter is provided and the exposure is calculated for the time period from issuance to loss or damage of the film badge, TLD, or OSL dosimeter. The results of the calculated exposure and the time period for which the film badge, TLD, or OSL dosimeter was lost or damaged shall be included in the records maintained in accordance with subsection (G).

F. Each alarm ratemeter shall:

1. Be checked to ensure that the alarm functions properly (sounds) before using at the start of each shift;
2. Be set to give an alarm signal at a preset dose rate of 5 mSv/hr (500 mrem/hr); with an accuracy of plus or minus 20% of the true radiation dose rate;
3. Require special means to change the preset alarm function; and
4. Be calibrated at periods not to exceed 12 months for correct response to radiation.

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G. Each licensee and registrant shall maintain the following personnel monitoring records:

1. Direct reading dosimeter readings and yearly operability checks required by subsections (B) and (C) for three years after the record is made.
2. Records of alarm ratemeter calibrations for three years after the record is made.
3. Reports received from the film badge, TLD, or OSL processor. The records shall be maintained until the Agency terminates the license or registration.
4. Records of estimates of exposures as a result of: off-scale personal direct reading dosimeters, or lost or damaged film badges, TLDs, or OSL dosimeters. The records shall be maintained until the Agency terminates the license.

R12-1-524. Supervision of radiographers' assistants

~~If a radiographer's assistant uses radiographic exposure devices, associated equipment, or sealed sources, or conducts radiation surveys required by R12-1-533 to determine that the sealed source has returned to the shielded position after an exposure, the radiographer's assistant shall be under the personal supervision of a radiographer.~~

Whenever a radiographer's assistant uses radiographic exposure devices, associated equipment or sealed sources or conducts radiation surveys required by R12-1-533(B) to determine that the sealed source has returned to the shielded position after an exposure, the assistant shall be under the personal supervision of a radiographer. The personal supervision shall include:

1. The radiographer's physical presence at the site where the sealed sources are being used;
2. The availability of the radiographer to give immediate assistance if required; and
3. The radiographer's direct observation of the assistant's performance of the radiography operations referred to in this Section.

R12-1-525. ~~Reserved~~ Agency Notification of Field Work

Each day radiation sources are used in the practice of industrial radiography, as defined in R12-1-510(A), a licensee shall notify the Agency of the planned field radiography. The notification shall be in writing, and shall specify the location of the field work, the name of the supervising individual at the job-site, and the expected duration of the work at the job-site listed in the notification. A facsimile describing the expected field work will be accepted in lieu of a letter to the Agency.

R12-1-533. Radiation Surveys ~~and Survey Records~~

- ~~A. A licensee or registrant shall provide and use at least one calibrated and operable radiation survey instrument, as described in R12-1-504, at each site where radiographic exposures are made and at each storage area when an exposure device, storage container, or sealed source is placed in storage.~~
- ~~B. A radiographer or radiographer's assistant shall conduct a survey with a radiation survey instrument after each radiographic exposure to determine that the sealed source has been returned to its shielded position. The entire circumference of the radiographic exposure device shall be surveyed. If the radiographic exposure device has a source guide tube, the survey shall include the guide tube.~~
- ~~C. A radiographer or radiographer's assistant shall conduct a radiation survey to determine the exposure levels from a sealed source if the sealed source has been returned to its shielded position and the radiographic exposure device placed in a storage area. The entire circumference of the radiographic exposure device shall be surveyed.~~
- ~~D. Records of all radiation surveys performed with a survey meter, as required in this Article, shall be retained for three years after completion of the survey, except that records of a survey to determine an individual's dose shall be retained for the period of time specified in R12-1-418(D)(2).~~
- A. The licensee shall conduct surveys with a calibrated and operable radiation survey instrument that meets the requirements of R12-1-504.
- B. Using a survey instrument meeting the requirements of subsection (A), The licensee shall conduct a survey of the radiographic exposure device and the guide tube after each exposure when approaching the device or the guide tube. The survey shall be performed in such a way to determine that the sealed source has returned to its shielded position before exchanging films, repositioning the exposure head, or dismantling the equipment.
- C. The licensee shall conduct a survey of the radiographic exposure device with a calibrated radiation survey instrument any time the source is exchanged and whenever a radiographic exposure device is placed in a storage area as defined in R12-1-501, to ensure that the sealed source is in its shielded position.
- D. The licensee shall maintain a record of each exposure device survey conducted before the device is placed in storage as specified in subsection (C), if that survey is the last one performed in the workday. Each record shall be maintained for three years after it is made.

R12-1-534. ~~Records Required at Temporary Job Sites~~ Repealed

~~Each licensee or registrant conducting industrial radiography at a temporary job site shall maintain the following records at that site:~~

1. ~~A copy of the appropriate license or registration certificate;~~
2. ~~Operating and emergency procedures;~~
3. ~~Applicable Agency rules;~~

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4. Survey records required under R12-1-533 for the period of operation at the site;
5. Daily dosimeter records for the period of operation at the site;
6. The latest instrument calibration and leak test record for specific devices in use at the site, or instead of the instrument calibration record, a legible label detailing the calibration results affixed to the instrument by the licensed person performing the calibration; and
7. A radiographer certification card, or other proof of certification, for each radiographer working at the temporary job site.

R12-1-539. Reserved Permanent Radiographic Installations

- A.** Each entrance that is used for personnel access to the high radiation area in a permanent radiographic installation shall have either:
1. An entrance control of the type described in R12-1-420(A)(1) that reduces the radiation level upon entry into the area, or
 2. Both conspicuous visible and audible warning signals to warn of the presence of radiation. The visible signal shall be actuated by radiation whenever the source is exposed. The audible signal shall be actuated when an attempt is made to enter the installation while the source is exposed.
- B.** The alarm system shall be tested for proper operation with a radiation source each day before the installation is used for radiographic operations. The test shall include a check of both the visible and audible signals. The entrance control devices that reduce the radiation level upon entry referenced in subsection (A)(1) shall be tested monthly. If an entrance control device or an alarm is operating improperly, it shall be immediately labeled as defective and repaired within seven calendar days. The facility may continue to be used during this seven-day period, provided the licensee implements the continuous surveillance requirements of R12-1-509 and uses an alarming ratemeter.
- C.** Each licensee and registrant shall maintain records of alarm system and entrance control device tests for three years after it is made.

R12-1-540. Reserved Location of Documents and Records

- A.** Each licensee and registrant shall maintain copies of records required by this Article and other applicable Articles of this Chapter at the location specified in R12-1-502(10).
- B.** Each licensee and registrant shall maintain copies of the following documents and records sufficient to demonstrate compliance at each applicable field station and each temporary jobsite:
1. The license authorizing the use of radioactive material, and registration authorizing the possession of the x-ray machine;
 2. A copy of Articles 4, 5, and 10 of these rules;
 3. Utilization records for each radiographic exposure device dispatched from that location as required by R12-1-507;
 4. Records of equipment problems identified in daily checks of equipment as required by R12-1-508(A);
 5. Records of alarm system and entrance control checks required by R12-1-539(2);
 6. Records of direct reading dosimeters such as pocket dosimeter and/or electronic personal dosimeters readings as required by R12-1-523;
 7. Operating and emergency procedures required by R12-1-522;
 8. Evidence of the latest calibration of the radiation survey instruments in use at the site, as required by R12-1-504;
 9. Evidence of the latest calibrations of alarm ratemeters, operability checks of pocket dosimeters, and electronic personal dosimeters as required in R12-1-523;
 10. Latest survey records required by R12-1-533;
 11. The shipping papers for the transportation of radioactive material required by 10 CFR 71.5, 2003 Edition, published January 1, 2003, incorporated by reference and on file with the Agency and the Office of the Secretary of State (this incorporation contains no future editions or amendments); and
 12. When operating under reciprocity in accordance with R12-1-320, a copy of the NRC or Agreement State license authorizing the use of radioactive materials.
 13. When operating under reciprocity in accordance with R12-1-207, a copy of the machines registration and a written authorization to operate in the state from the Agency.

R12-1-543. Training

- A.** An individual shall not act as a radiographer until the individual has received training in the subjects in subsection (G), has participated in a minimum of two months of on-the-job training, and is certified through a radiographer certification program by a certifying entity in accordance with the criteria specified in Appendix A.
1. The licensee or registrant shall provide the Agency with proof of an individual's certification when requesting to have the individual added to a license or registration as a certified radiographer.
 2. The proof of certification shall be maintained at the job site where a radiographer is performing field radiography.
 3. The following rules apply to certified radiographers working in Arizona:
 - a. The certification shall have occurred within the last five years.

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- b. An uncertified radiographer may only work as a radiography assistant until certified.
 - c. A radiographer may recertify by:
 - i. Taking an approved radiography certification examination in accordance with this subsection; or
 - ii. Demonstrating in writing that the radiographer has been active in the practice of industrial radiography and has participated in continuing education during the previous five year period.
 - iii. If a radiographer cannot demonstrate in writing an active participation in the field of industrial radiography meeting the requirement in subsection, the individual shall retake the certification examination.
 - d. Proof of certification shall be in the form of a card issued by the certifying entity and shall contain:
 - i. A picture of the certified radiographer;
 - ii. A certification number;
 - iii. Expiration date; and
 - iv. Radiographer's signature.
- B.** In addition, an individual shall not act as a radiographer until the individual:
- 1. Has received copies of and instruction in the requirements described in the Agency rules contained in this Article, applicable Sections of Articles 4 and 10, and R12-1-107, in applicable DOT regulations as referenced in 10 CFR 71, 2003 Edition, published January 1, 2003, by reference, containing no future editions or amendments, on file with Agency and Secretary of State, in the Agency license(s) under which the radiographer will perform industrial radiography, and the licensee's operating and emergency procedures;
 - 2. Has demonstrated an understanding of the licensee's license or registrant's registration, and operating and emergency procedures by successful completion of a written or oral examination covering the material.
 - 3. Has received training in the use of the registrants x-ray machine or licensee's radiographic exposure devices, sealed sources, daily inspection of devices and associated equipment, and in the use of radiation survey instruments.
 - 4. Has demonstrated an understanding of the use of radiographic exposure devices, sources, survey instruments and associated equipment described in subsections (B)(1) and (B)(3) by successful completion of a practical examination covering this material.
- C.** An individual shall not act as a radiographer's assistant until the individual:
- 1. Has received copies of and instruction in the requirements described in the Agency rules contained in this Article, applicable Sections of Articles 4 and 10, and R12-1-107, in applicable DOT regulations as referenced in 10 CFR part 71, 2003 Edition, published January 1, 2003, incorporated by reference, containing no future editions or amendments, on file with Agency and Secretary of State, in the Agency license(s) under which the radiographer will perform industrial radiography, and the licensee's operating and emergency procedures; in the Agency license(s) under which the radiographer's assistant will perform industrial radiography, and the licensee's operating and emergency procedures;
 - 2. Has developed competence to use, under the personal supervision of the radiographer, the radiographic exposure devices, sealed sources, associated equipment, and radiation survey instruments that the assistant will use; and
 - 3. Has demonstrated understanding of the instructions provided under subsection (C)(1) by successfully completing a written test on the subjects covered and has demonstrated competence in the use of hardware described in subsection (C)(2) by successful completion of a practical examination involving the use of the hardware.
- D.** Each licensee and registrant shall provide annual refresher safety training for each radiographer and radiographer's assistant at intervals not to exceed 12 months.
- E.** Except as provided in subsection (E)(4), the RSO or designee shall conduct an inspection program of the job performance of each radiographer and radiographer's assistant to ensure that the Agency's rules, license requirements, and the applicant's operating and emergency procedures are followed. The inspection program shall:
- 1. Include observation of the performance of each radiographer and radiographer's assistant during an actual industrial radiographic operation, at intervals not to exceed six months; and
 - 2. Provide that, if a radiographer or a radiographer's assistant has not participated in an industrial radiographic operation for more than six months since the last inspection, the radiographer shall demonstrate knowledge of the training requirements of subsection (B)(3) and the radiographer's assistant shall re-demonstrate knowledge of the training requirements of subsection (C)(2) by a practical examination before these individuals can next participate in a radiographic operation.
 - 3. The Agency may consider alternatives in those situations where the individual serves as both radiographer and RSO.
 - 4. In those operations where a single individual serves as both radiographer and RSO, and performs all radiography operations, an inspection program is not required.
- F.** Each licensee and registrant shall maintain records of the above training to include certification documents, written and practical examinations, refresher safety training and inspections of job performance in accordance with subsection (J).
- G.** Each licensee and registrant shall include the following subjects required in subsection (A):
- 1. Fundamentals of radiation safety including:
 - a. Characteristics of gamma radiation;
 - b. Units of radiation dose and quantity of radioactivity;

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- c. Hazards of exposure to radiation;
 - d. Levels of radiation from licensed material; and
 - e. Methods of controlling radiation dose (time, distance, and shielding);
 - 2. Radiation detection instruments including:
 - a. Use, operation, calibration, and limitations of radiation survey instruments;
 - b. Survey techniques; and
 - c. Use of personnel monitoring equipment;
 - 3. Equipment to be used including:
 - a. Operation and control of radiographic exposure equipment, remote handling equipment, and storage containers, including pictures or models of source assemblies (pigtailed).
 - b. Storage, control, and disposal of licensed material; and
 - c. Inspection and maintenance of equipment.
 - 4. The requirements of pertinent Agency rules; and
 - 5. Case histories of accidents in radiography.
- H.** Records of radiographer certification maintained in accordance with subsection (I)(1) shall provide appropriate affirmation of certification requirements specified in subsection (A)(1).
- I.** Each licensee shall maintain the following records (of training and certification) for three years after the record is made:
- 1. Records of training of each radiographer and each radiographer's assistant. The record shall include radiographer certification documents and verification of certification status, copies of written tests, dates of oral and practical examinations, and names of individuals conducting and receiving the oral and practical examinations; and
 - 2. Records of annual refresher safety training and semi-annual inspections of job performance for each radiographer and each radiographer's assistant. The records shall list the topics discussed during the refresher safety training, the dates the annual refresher safety training was conducted, and names of the instructors and attendees. For inspections of job performance, the records shall also include a list showing the items checked and any non-compliances observed by the RSO.

Appendix A.
Standards for Organizations Providing
Radiography Certification

Note: For purposes of this Article "independent certifying organization" means an independent organization that meets all of the criteria in this appendix.

I. Requirements for an Organization Providing Radiographer Certification

To qualify an organization shall:

- A.** Be an organization such as a society or association, whose members participate in, or have an interest in, the fields of industrial radiography;
- B.** Make its membership available to the general public nationwide that is not restricted because of race, color, religion, sex, age, national origin or disability;
- C.** Have a certification program open to nonmembers, as well as members;
- D.** Be an incorporated, nationally recognized organization, that is involved in setting national standards of practice within its fields of expertise;
- E.** Have an adequate staff, a viable system for financing its operations, and a policy-and decision-making review board;
- F.** 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;
- G.** 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;
- H.** Have a committee, whose members can carry out their responsibilities impartially, to review complaints against certified individuals and to determine appropriate sanctions; 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;
- I.** 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;
- J.** Have procedures for proctoring examinations, including qualifications for proctors. These procedures shall 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;
- K.** Exchange information about certified individuals with the Agency and other independent certifying organizations and NRC or Agreement States and allow periodic review of its certification program and related records; and

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- L.** Provide a description to the Agency of its procedures for choosing examination sites and for providing an appropriate examination environment.

II. Requirements for a Certification Program

A certification program shall:

- A.** Require applicants for certification to:
1. Receive training in the topics set forth in R12-1-543(G) or equivalent NRC or Agreement State regulations, and
 2. Satisfactorily complete a written examination covering these topics;
- B.** Require applicants for certification to provide documentation that demonstrates that the applicant has:
1. Received training in the topics set forth in R12-1-543(G) or equivalent NRC or Agreement State regulations;
 2. Satisfactorily completed a minimum period of on-the-job training; and
 3. Has received verification by an Agreement State or a NRC licensee that the applicant has demonstrated the capability of independently working as a radiographer;
- C.** Include procedures to ensure that all examination questions are protected from disclosure;
- D.** Include procedures for denying an application and revoking, suspending, and reinstating a certificate;
- E.** Provide a certification period of not less than three years nor more than five years; Include procedures for renewing certifications and, if the procedures allow renewals without examination, require evidence of recent full-time employment and annual refresher training.
- F.** Provide a timely response to inquiries, by telephone or letter, from members of the public, about an individual's certification status.

III. Requirements for a Written Examination

An examination shall be:

- A.** Designed to test an individual's knowledge and understanding of the topics listed in R12-1-543(G) or equivalent NRC or Agreement State requirements;
- B.** Written in a multiple-choice format;
- C.** Have test items drawn from a question bank containing psychometrically valid questions based on the material in R12-1-543(G).

ARTICLE 6. USE OF X-RAYS IN THE HEALING ARTS

R12-1-612. Computerized Tomographic Systems

- A.** No change
1. No change
 2. No change
 3. No change
 4. No change
 5. No change
 6. No change
 7. No change
 8. No change
 9. No change
 10. No change
- B.** No change
1. No change
 2. No change
- C.** No change
1. No change
 - a. No change
 - b. No change
 2. No change
 - a. No change
 - b. No change
 3. No change
 - a. No change
 - b. No change
 - c. No change
 4. No change

- 5. No change
- 6. No change
- 7. No change
- 8. No change
- D.** No change
 - 1. No change
 - 2. No change
 - a. No change
 - b. No change
 - c. No change
 - d. A current technique chart containing ~~the CT's operating parameters~~ the information required in R12-1-607(D)(4) for both adult and pediatric patients, if applicable, shall be available at the CT operating console, and a procedure for determining whether a CT has been performed according to instructions of a physician.
 - 3. No change
- E.** No change
 - 1. No change
 - a. No change
 - b. No change
 - c. No change
 - d. No change
 - 2. Is included in the evaluation of the CT's operation and that the interval and system conditions are specified by the registrant's qualified expert, but not to exceed two months.
 - 3. No change
 - 4. No change
 - 5. No change
- F.** No change
 - 1. No change
 - 2. No change
 - a. No change
 - b. No change
 - 3. No change
 - a. No change
 - b. No change
 - 4. No change
 - a. No change
 - b. No change
 - 5. No change

~~**ARTICLE 7. USE OF RADIONUCLIDES IN THE HEALING ARTS**~~
MEDICAL USES OF RADIOACTIVE MATERIAL

R12-1-703. License for Medical Use of Radioactive Material

- A.** In addition to the requirements set forth in R12-1-309, the Agency shall issue a specific license for medical use of radioactive material ~~in medical institutions, which will be issued if:~~
 - 1. No change
 - 2. No change
 - 3. No change
 - 4. No change
- B.** No change
 - 1. No change
 - a. No change
 - b. No change
 - c. No change
 - d. No change
 - 2. No change
 - a. No change
 - i. No change
 - ii. No change
 - iii. No change

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- iv. No change
 - b. No change
 - c. No change
- C. No change
 - 1. No change
 - a. No change
 - b. ~~The applicant, or any physician designated in the application as an individual~~ applicant's and licensee's authorized user meets the qualifications in R12-1-704;
 - c. ~~All other personnel who will be involved in the preparation and use of the radioactive material have adequate training and experience in the handling of radioactive material appropriate to their participation in the uses included in the group or groups shall be qualified for their activities involving radioactive material in accordance with the rules of the Medical Radiologic Technology Board of Examiners, authorized pursuant to A.R.S. § 32-2800;~~
 - d. No change
 - e. No change
 - 2. No change
 - a. For Groups I, II, IV and V, a licensee or registrant shall not receive, possess, or use radioactive material as a radiopharmaceutical unless manufactured in the form to be administered to the patient, labeled, packaged, and distributed according to a specific license issued by the Agency under R12-1-311(J), a specific license issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.72, ~~1998~~ 2003 Edition, published January 1, ~~1998~~ 2003, incorporated by reference and on file with the Agency and the Office of Secretary of State (This incorporation by reference contains no future editions or amendments), or a specific license issued by an Agreement State or a Licensing State under equivalent rules.
 - b. No change
 - i. No change
 - ii. No change
 - c. No change
 - i. No change
 - ii. No change
 - iii. No change
 - d. No change
 - 3. No change
 - 4. No change
- D. In addition to the requirements set forth in R12-1-309, the Agency shall issue a specific license for medical use of sealed sources only if the ~~applicant or, if the application is made by a medical institution, the individual user has~~ applicant's proposed authorized users have the qualifications listed in R12-1-704.

R12-1-704. Supervision

- A. No change
- B. No change
- C. A physician, having the training and experience listed in 10 CFR 35, ~~1998~~ 2003 Edition, published January 1, ~~1998~~ 2003, which is incorporated by reference and on file with the Agency and the Office of Secretary of State, or a physician under the supervision of a physician having the qualifications listed above, may use radioactive material for medical purposes. This incorporation by reference contains no future editions or amendments.
- D. No change
- E. Only physicians listed on a valid radioactive material license shall:
 - 1. Supervise the use of radioactive material in the practice of medicine.
 - 2. Sign preceptor statements verifying the training and experience of physicians qualifying to be authorized users.

R12-1-706. Radiation Safety Committee

- A. A medical licensee shall have a Radiation Safety committee if the following requirements are met:
 - 1. The medical licensee is authorized in a radioactive material license to use radioactive material under Group IV or V listed in Exhibit A for two or more medical purposes; or
 - 2. The medical licensee is authorized in a radioactive material license to use sealed sources containing radioactive material for two or more therapy modalities regulated under R12-1-714, R12-1-716, R12-1-717, and R12-1-718.
- B. No change
 - 1. No change
 - a. No change
 - b. No change

- c. No change
- d. No change
 - i. No change
 - ii. No change
 - iii. No change
 - iv. No change
 - v. No change
 - vi. No change
- e. No change
- 2. No change
 - a. No change
 - b. No change
 - c. No change

R12-1-712. Sealed Sources

- A. Each medical and nuclear pharmacy licensee shall conduct a ~~quarterly~~ physical inventory every six months to account for all radioactive sealed sources received and possessed. Records of the inventories shall be maintained for inspection by the Agency and shall include the quantities, kinds of radioactive material, location of sources, the date of the inventory, and signature of the person performing the inventory.
- B. A licensee shall use radioactive sealed sources for medical purposes as prescribed in R12-1-450(A).

R12-1-713. Dose Calibrators and Determination of Dosages

- ~~A. A medical use licensee shall possess a dose calibrator and use it to measure the amount of radioactivity administered to a person and to insure that the amount given to the person is the authorized user's prescribed amount.~~
A medical licensee shall not administer to a person radioactive material in an unsealed form that has not had its radioactivity determined, using one of the methods described in subsections (C) or (D).
- B. The dosage determination in subsection (A) shall be made and recorded before medical use.
- C. For unit dosages the determination shall be made by:
 - 1. Direct reading of the radioactivity in a dose calibrator; or
 - 2. Decay correction based on the radioactivity or radioactivity concentration determined by a properly licensed:
 - a. Manufacturer, or
 - b. Nuclear pharmacy
- D. For other than unit dosages the determination shall be made by
 - 1. Direct measurement of the radioactivity in a dose calibrator;
 - 2. Combination of subsection (D)(1) and mathematical calculations; or
 - 3. Combination of volumetric measurement and mathematical calculation based on a radioactivity measurement determined by a supplier listed in subsection (C)(2)(a) or (C)(2)(b).
- E. A dosage determination shall not be used unless it falls within the authorized user's prescribed dosage range, or unless it is within 20% of the prescribed dosage. For purposes of this rule prescribed dosage means: the specified radioactivity or range of radioactivity of unsealed radioactive material ordered for a medical use by an authorized user on a radioactive material license.
- F. Dose calibrators shall be calibrated in accordance with nationally recognized standards or manufacturers instructions.

R12-1-714. Brachytherapy

- A. No change
 - 1. No change
 - 2. No change
 - 3. ~~Each licensee shall conduct a quarterly physical inventory to account for all brachytherapy sources and devices containing brachytherapy sources received and possessed. Records of the inventories shall be maintained for inspection by the Agency and shall include the quantities and kinds of radioactive material, location of sources and devices, and the date of the inventory.~~
 - 4.3. Each licensee shall follow the radiation safety and handling instructions approved by the Agency; or follow the radiation safety and handling instructions furnished by the manufacturer on the label attached to the brachytherapy source, the device containing a brachytherapy source, the permanent container containing the brachytherapy source, or in the leaflet or brochure which accompanies the brachytherapy source or device, and maintain these such instructions in a legible and easily accessible form. If the handling instructions, leaflet, or brochure is no longer available or a copy cannot be obtained from the manufacturer, the Agency shall be notified the source information is no longer available.

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5-4. ~~An authorized user~~ ~~A physician~~, transporting a brachytherapy source or applicator containing a brachytherapy source for his or her own use in the practice of medicine, shall transport the brachytherapy source or applicator according to the requirements in 12 A.A.C. 1, Article 15.

B. No change

C. No change

1. ~~An authorized user~~ ~~A physician~~ on a radioactive material license or ~~qualified expert~~ ~~qualified designee~~ shall measure the maximum radiation level at a distance of 1 meter (40 in.) from the patient in whom brachytherapy sources have been inserted, using a calibrated survey instrument. This radiation level shall be entered on the patient's chart and other signs posted as required in subsection (D).

2. ~~An authorized user~~ ~~A physician~~ on a radioactive material license or ~~qualified expert~~ ~~qualified designee~~ shall measure and record the radiation level in the patient's room and the surrounding area. The licensee shall maintain the record for three years for Agency inspection.

3. No change

D. The person chosen by the licensee to assist the authorized user in determining the therapeutic sealed source output shall be a qualified expert.

~~D.E.~~ Signs and records.

1. In addition to the requirements in R12-1-429, the licensee shall mark the bed, cubicle or room of the hospital brachytherapy patient with a sign indicating the presence of brachytherapy sources. This sign shall incorporate the radiation symbol and specify the radionuclide, activity, date, and individual to contact for radiation safety instructions. The sign is not required if any of the exceptions in R12-1-430 apply.

2. ~~A physician~~ An authorized user on a radioactive material license or a qualified designee expert shall include the following information in the patient's records when the patient is undergoing brachytherapy:

a. The radionuclide administered, the number of sources, the activity in millicuries, and the time and date of administration;

b. The exposure or dose rate at 1 meter, the time the measurement was made, and by whom;

c. The radiation symbol; and

d. The precautionary instructions necessary to assure that the exposure of individuals does not exceed that permitted in R12-1-408.

R12-1-716. Teletherapy

A. No change

1. No change

2. No change

3. No change

4. No change

5. No change

6. No change

7. No change

a. No change

b. No change

8. No change

9. No change

10. No change

B. No change

C. No change

D. No change

1. The licensee's ~~qualified~~ expert, ~~qualified by training and experience under subsection (G)~~, shall perform full calibration measurements on each teletherapy unit:

a. No change

b. No change

i. No change

ii. No change

iii. No change

c. No change

2. No change

a. No change

b. No change

c. No change

d. No change

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- e. No change
 - 3. No change
 - 4. The qualified expert shall correct the exposure rate or dose rate values mathematically for cobalt-60 at intervals not to exceed one month and for cesium-137 at intervals not to exceed six months ~~intervals not exceeding 1 month.~~
- E.** No change
- 1. The licensee's qualified expert or other authorized agent shall perform spot check measurements on each teletherapy unit at intervals not exceeding one month.
 - 2. No change
 - a. No change
 - b. No change
 - c. No change
 - d. No change
 - e. No change
 - 3. The qualified expert shall establish spot check measurement procedures. If the qualified expert does not perform the spot check measurements, the results of the spot check measurements shall be reviewed by the qualified expert within 15 days.
- F.** No change
- 1. The licensee's qualified expert shall perform full calibration measurements using a dosimetry system that has been calibrated by the National Bureau of Standards or by a Regional Calibration Laboratory accredited by the American Association of Physicists in Medicine. The dosimetry system shall have been calibrated within the previous two years and after any servicing that may have affected system calibration.
 - 2. No change
- ~~**G.**~~ The licensee shall determine if a person is an expert, qualified by training and experience to calibrate a teletherapy unit, establish procedures for spot check measurements, and review the results of such measurements. The licensee shall determine that the qualified expert:
- ~~1. Is certified by the American Board of Radiology in: Therapeutic Radiological Physics, Radiological Physics, Roentgen-Ray and Gamma-Ray Physics, or X-ray and Radium Physics; or the American Board of Medical Physicists in Radiation Oncology Physics; or~~
 - ~~2. Has the following minimum training and experience:
 - a. A Master's or Doctor's degree in physics, biophysics, radiological physics or health physics;
 - b. One year of full-time training in therapeutic radiological physics; and
 - c. One year of full-time experience in radiotherapy facility, including personal calibration and spot check of at least one teletherapy unit.~~
 - ~~3. Licensees, that have their teletherapy units calibrated by persons who do not meet the criteria in subsections (1) and (2) for minimum training experience, may request a license amendment excepting them from these training requirements. The request should include the name of the proposed qualified expert, a description of the expert's training and experience, including information similar to that specified in subsection (2), reports of at least 1 calibration and 1 spot check, based on measurements personally made by the proposed qualified expert within the last 10 years, and a written endorsement of the qualified expert's qualifications by a physicist certified by the American Board of Radiology in one of the specialties listed in subsection (1), based on personal knowledge.~~
- ~~**H-G.**~~ The licensee shall maintain for inspection by the Agency: records of measurements, tests, corrective actions, and instrument calibrations made under subsections (D) and (E), and records of the licensee's evaluation of the qualified expert's training and experience under subsection (G).
- 1. The licensee shall preserve records of the following for three years after completion of each full calibration:
 - a. Full calibration measurements; and
 - b. Calibration of the instruments used to make the full calibration measurements.
 - 2. The licensee shall preserve records of the following for three years after completion of each spot check:
 - a. Spot check measurements and corrective actions; and
 - b. Calibration of instruments used to make spot check measurements.
 - 3. The licensee shall preserve records of the licensee's evaluation of the qualified expert's training and experience for three years after the qualified expert's last performance of a full calibration on the licensee's teletherapy unit.
- H.** All physics procedures performed in preparation for application of radiation to a patient for therapy purposes shall be performed by a qualified expert meeting the following training requirements:
- 1. Is certified by the American Board of Radiology in: Therapeutic Radiological Physics, Radiological Physics, Roentgen-Ray and Gamma-Ray Physics, or X-ray and Radium Physics; or the American Board of Medical Physicists in Radiation Oncology Physics; or
 - 2. Has the following minimum training and experience:
 - a. Possess a Master's or Doctor's degree in physics, biophysics, radiological physics or health physics;
 - b. Participated in one year of full-time training in therapeutic radiological physics; and

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- c. Participated in one year of full-time experience in radiotherapy facility, including personal calibration of gamma stereotactic therapy system and associated patient treatment planning.
- 3. Those candidates failing to meet these standards in subsections (I)(1) and (I)(2), may request a license amendment excepting them from these training requirements in accordance with A.R.S. § 30-654(B)(13). The request should include the name of the proposed qualified expert, a description of the individual's training and experience, including information similar to that specified in subsection (I)(2), and a written endorsement of the individual's qualifications by a physicist certified by the American Board of Radiology in one of the specialties listed in subsection (I)(1), based on personal knowledge.

R12-1-717. High Dose Rate Remote After-loading Brachytherapy Devices

- A. No change
- B. No change
- C. No change
 - 1. No change
 - 2. No change
- D. ~~The licensee shall test the electrical interlocks on the entrance door to the treatment room for proper operation at least once a month. Records of test results shall be maintained for 3 years for inspection by the Agency.~~
The licensee shall test the following for proper operation once each month:
 - 1. The electrical interlock on the entrance door to the treatment room, and
 - 2. The radiation source locking system.
 - 3. Records of test results shall be maintained for three years for inspection by the Agency.
- E. ~~In the event of malfunction of the door interlock, the licensee shall lock the after loading irradiation device in the "off" position and not use the after loading, except as may be necessary to repair or replace the interlock system, until the interlock system is shown to be functioning properly.~~
In the event of malfunction of a door interlock or source locking system in subsection (D), the licensee shall secure from use the after-loading irradiation device and not use the after-loading, except as may be necessary to repair or replace the interlock system, until the interlock system is shown to be functioning properly.
- F. No change
 - 1. No change
 - a. No change
 - b. No change
 - i. No change
 - ii. No change
 - iii. No change
 - 2. No change
- G. No change
 - 1. No change
 - 2. No change
- H. No change
- I. No change
 - 1. No change
 - 2. No change
 - a. No change
 - b. No change
 - c. No change
 - 3. No change

Exhibit A

Groups of Medical Uses of Radioactive Material

Group I.

- A. No change
 - 1. No change
 - 2. No change
 - 3. No change
 - 4. No change
 - 5. No change
 - 6. No change
 - 7. No change

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- 8. No change
- 9. No change
- 10. No change
- 11. No change

B. No change

- 1. Obtained from a manufacturer or preparer licensed according to 10 CFR 32.72, ~~1998~~ 2003 Edition, published January 1, ~~1998~~ 2003, or equivalent Agreement State requirements. This incorporation by reference is on file with the Agency and the Office of Secretary of State, and contains no future editions or amendments; or
- 2. Prepared by a nuclear pharmacist or a physician who is an authorized user on a radioactive material license, and meets the training and experience requirements in 10 CFR 35(J), or an individual under their ~~the~~ supervision, ~~of either as specified in 10 CFR 35.25, 1998~~ This incorporation is the 2003 Edition, published January 1, ~~1998~~ 2003; ~~both references are~~ incorporated by reference, and on file with the Agency and the Office of Secretary of State. This incorporation contains ~~These incorporations contain~~ no future editions or amendments.

Group II.

C. No change

- 1. No change
- 2. No change
- 3. No change
- 4. No change
- 5. No change
- 6. No change
- 7. No change
- 8. No change
- 9. No change
- 10. No change
- 11. No change
- 12. No change
- 13. No change
- 14. No change
- 15. No change

D. No change

- 1. No change
- 2. No change

Group III.

E. No change

- 1. No change
- 2. No change
- 3. No change
- 4. No change

F. No change

- 1. No change
- 2. No change

Group IV.

G. No change

- 1. No change
- 2. No change
- 3. No change
- 4. No change
- 5. Yttrium-90

H. No change

- 1. No change
- 2. No change

Group V.

I. No change

- 1. No change
- 2. No change

J. No change

- 1. No change
- 2. No change

ARTICLE 8. RADIATION SAFETY REQUIREMENTS FOR ANALYTICAL X-RAY OPERATIONS

R12-1-801. Scope

The rules in this Article establish requirements for the use of analytical x-ray equipment as defined in R12-1-802 by persons registering such machines under the provisions of R12-1-204 of these regulations. The provisions of this Article are not in substitution for other applicable provisions of this Chapter.

R12-1-803. ~~Enclosed-Beam~~ Enclosed-beam X-ray Systems

- A. No change
- B. No change
- C. ~~A registrant shall provide individuals performing maintenance, servicing, or alignment procedures, where bypassing of interlocks or other safety devices to gain access to the interior of the enclosure is required, with appropriate personnel monitoring devices (that is, wrist or finger badges). These individuals shall wear the devices while performing the work. Persons performing maintenance, servicing, or alignment procedures, where bypassing of interlocks or other safety devices to gain access to the interior of the enclosure is requested, shall:~~
 - 1. Obtain permission in advance to intentionally bypass interlocks or other safety devices from the person responsible for radiation protection, and
 - 2. Wear extremity personnel monitoring devices.
 - 3. The bypass shall be terminated upon completion of the described activities in subsection (C) or labeled as out-of-service until the activities are completed.
- ~~D. Intentional bypassing of safety devices shall be authorized in advance by the individual responsible for radiation protection. Bypassing shall be terminated as soon as the activity described in subsection (C) is completed, or the equipment shall be labeled as out-of-service with a conspicuous sign until repairs are completed.~~

R12-1-804. ~~Open-Beam~~ Open-beam X-ray Systems

- A. ~~A registrant shall label open beam x-ray systems~~ All open-beam analytical x-ray equipment shall be labeled with a readily discernable sign or signs bearing the radiation symbol and the words:
 - 1. No change
 - 2. No change
- B. ~~A registrant shall ensure that an open beam x-ray system has~~ Open-beam analytical x-ray equipment shall have all of the following warning devices:
 - 1. No change
 - 2. No change
 - 3. No change
 - 4. No change
- C. ~~A registrant shall ensure that any~~ The apparatus utilized in beam alignment procedures is designed in such a way that excessive radiation will not ~~shall not allow excessive radiation~~ strike the operator. Particular attention shall be given to viewing devices, in order to ascertain that lenses and other transparent components attenuate the beam to an acceptable level.
- D. ~~A registrant shall provide an interlock device which prevents~~ A device which prevents the entry of any portion of an individual's body into the primary beam or causes the primary beam to be shut off upon entry into its path shall be provided on all open-beam x-ray systems. A registrant may apply to the Agency for an exemption from the requirements of a safety device. An application for exemption shall include:
 - 1. No change
 - 2. No change
 - 3. No change
- E. ~~On open beam configurations installed after the effective date of these rules, a registrant shall equip each port on the radiation source housing with a shutter that cannot be opened unless a collimator or a coupling has been connected to the port. Each radiation source housing shall be constructed so that:~~
 - 1. Each x-ray tube housing shall be equipped with an interlock that shuts off the tube if it is removed from the radiation source housing or if the housing is disassembled.
 - 2. With all shutters closed, the radiation measured at a distance of 5 centimeters from its surface is not capable of producing a dose in excess of 0.025 mSv (2.5 mRem) in one hour for the specified tube rating for the x-ray tube being utilized.
- ~~F. A registrant shall equip each x-ray tube housing with an interlock that shuts off the tube if the tube is removed from the housing or if the housing is disassembled.~~
- ~~G.F. A registrant shall supply each~~ Each x-ray generator with a protective cabinet which limits leakage radiation measured at a distance of 5 cm (2 in) from its surface so that it is not capable of producing a dose equivalent in excess of 25 μ Sv (2.5 mrem) in one hour.

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~~H.G.~~ A registrant shall ensure that the The local components of an analytical x-ray system are shall be located and arranged and have sufficient shielding or access control so that no radiation levels exist in any area surrounding the local component group which could result in, at the specified tube rating, a dose to an individual present in the areas surrounding the local components, in excess of the dose limits in R12-1-416 of this Chapter. For systems utilizing x-ray tubes, these limits shall be met at any specified tube rating.

~~I.H.~~ A registrant shall perform a radiation survey of the local component group of each analytical x-ray system sufficient to demonstrate compliance with subsection ~~(H)~~: (G) following: The survey shall be performed following installation, change in configuration, or maintenance, affecting the radiation levels in the areas surrounding the local component group. Records of surveys shall be maintained for 3 years or until the analytical x-ray system is no longer used, which ever is shorter.

1. Installation;
2. Change in configuration, or
3. Maintenance, affecting the radiation levels in the areas surrounding the local component group.
4. Records of surveys shall be maintained for three years or until the analytical x-ray system is no longer used, which ever is shorter.

R12-1-805. Administrative Responsibilities

A. A registrant shall designate an individual at each facility who is responsible for maintaining radiation safety. This individual, designated the Radiation Safety Officer, The registrant shall designate a Radiation Safety Officer who shall:

1. Establish and maintain operational procedures so that the radiation exposure of each worker is kept as far below the maximum permissible dose as is practical ALARA;
2. No change
3. No change
4. No change
5. No change
6. No change
7. No change
8. No change

B. No change

1. No change
2. No change
3. No change
4. Recognition of symptoms of acute localized radiation exposure; and
5. Proper procedure for reporting an actual or suspected exposure; and

C. No change

R12-1-806. Operating Requirements

A. A Radiation Safety Officer shall establish written emergency procedures ~~pertaining to radiation safety for each analytical x-ray system~~ and post the procedures in a conspicuous location. The procedures shall include the telephone number of the Radiation Safety Officer. A registrant shall notify the Radiation Safety Officer in case of a known or suspected radiation exposure accident and arrange for medical examination for the person exposed

B. A registrant shall provide normal operating Written operating procedures shall be available to all analytical x-ray equipment workers. An individual shall not operate analytical x-ray equipment in any manner other than that specified in the procedures unless the individual has obtained the Radiation Safety Officer's written approval.

C. No change

D. No change

E. The registrant shall secure unused Unused ports on radiation source housings in the closed position, preventing shall be secured against unauthorized access to the radiation source.

F. No change

1. No change
2. No change

G. The registrant shall test safety Safety devices and warning devices shall be tested for proper operation at intervals not to exceed one month. Records of tests shall be maintained for Agency inspection for three years following the completion of each test.

R12-1-807. Surveys

A. To ensure that personnel exposure does not result in a dose to an individual in excess of the dose limits specified in Article 4, the registrant shall perform surveys:

1. Upon installation of the equipment, and at least once every 12 months thereafter;
2. Following any change in the initial arrangement, number, or type of local components in the system;

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3. Following any maintenance requiring the disassembly or removal of a local component in the system;
4. During the performance of maintenance and alignment procedures if the procedures require the presence of a primary x-ray beam when any local component in the system is disassembled or removed;
5. Any time a visual inspection of the local components in the system reveals an abnormal condition; and
6. Whenever personnel monitoring devices show a significant increase over the previous monitoring period or the readings are approaching the occupational dose limits specified in Article 4.

B. The radiation surveys required in subsection (A) need not be performed if the registrant can demonstrate that the local components of an analytical x-ray system are located and arranged, and have sufficient shielding or access control to limit personnel exposure to ALARA below the occupational dose limits in Article 4. The radiation levels shall be determined at the specified x-ray tube rating.

R12-1-808. Postings

Each area or room containing analytical x-ray equipment shall be conspicuously posted with a sign or signs bearing the radiation symbol and the words "CAUTION - X-RAY EQUIPMENT" or words having similar intent.

R12-1-809. Training

An individual shall not be allowed to operate or maintain analytical x-ray equipment unless the individual has received training in and demonstrated competence as to:

- A.** The identification of radiation hazards associated with the use of the equipment;
- B.** The significance of the various radiation warning and safety devices, and interlocks incorporated into the equipment, or the reason why they have not been installed;
- C.** The precautions associated with operation of the equipment;
- D.** The recognition of symptoms of an acute localized exposure; and
- E.** The proper procedure for reporting a suspected personnel exposure.

**ARTICLE 10. NOTICES, INSTRUCTIONS, AND REPORTS TO IONIZING RADIATION
WORKERS; INSPECTIONS**

ARTICLE 12. ADMINISTRATIVE PROVISIONS

R12-1-1215. License and Registration Divisions

- A.** No change
 1. No change
 2. No change
 3. Division III licenses and registrations:
 - Class A Laser Facility
 - Class A Industrial Radiofrequency Facility
 - Depleted Uranium
 - Gas Chromatograph
 - General Depleted Uranium
 - General Industrial
 - General Medical
 - General Veterinary Medicine
 - Health Physics Class B
 - Laboratory
 - Leak Detector
 - Limited Industrial
 - Medical Materials Class C
 - Other Ionizing Radiation Machine
 - Other Nonionizing Radiation Machine
 - Portable Gauge
 - Possession Only
 - Radioactive waste transfer-for-disposal
 - ~~Reciprocal~~
 - Unclassified
 - Veterinary Medicine
 - X-ray Machine Class C
- B.** No change
- C.** ~~Out of state licensees issued a general license for reciprocal recognition under R12-1-321 are classified in accordance with an appropriate specific license type defined in R12-1-1302.~~
Persons possessing an out-of-state specific license for the use of radioactive material operating in Arizona under recipro-

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cal recognition under R12-1-320 which authorizes the possession and use of radioactive material under the general license authorized in R12-1-1302(D)(16), shall be classified into the administrative sanction division listed in subsection (A) that best defines the out-of-state licensed activities.

- D.** For administrative purposes, the following ~~individuals~~ persons are classified with the Division III licensees and registrants in subsection (A)(3):
1. Any ~~individual~~ person not required to register the use of a general license;
 2. Any ~~individual~~ person not required to obtain a specific license;
 3. Any ~~individual~~ person not required to register a source of radiation who violates the Act or 12 A.A.C. 1; and
 4. Any person registered to provide x-ray machine service ~~servicing registrant~~.

ARTICLE 13. LICENSE AND REGISTRATION FEES

R12-1-1302. License and Registration Categories

- A.** No change
1. No change
 2. No change
 3. No change
 4. No change
- B.** No change
1. No change
 2. No change
 3. No change
 4. No change
 5. No change
 6. No change
- C.** No change
1. No change
 2. No change
 3. No change
 4. No change
 5. No change
 6. No change
 7. No change
 8. No change
 9. No change
 10. No change
 11. No change
 12. No change
 13. No change
 14. No change
 15. No change
 16. No change
 17. No change
- D.** No change
1. No change
 - a. No change
 - b. No change
 2. No change
 3. No change
 4. No change
 5. No change
 6. No change
 7. No change
 8. No change
 9. No change
 10. No change
 11. A low-level, radioactive waste disposal facility license is ~~one~~ one which is issued for a “disposal facility” as that term is used in R12-1-439 and R12-1-442 is constructed and operated according to the requirements in 10 CFR 61, ~~1998~~ 2003 Edition, published January 1, ~~1998~~ 2003, incorporated by reference and on file with the Agency and the Office

of the Secretary of State, containing no future editions or amendments; and has a closure or long-term care plan meeting the requirements of 10 CFR 61.

- 12. No change
- 13. No change
- 14. No change
- 15. No change
- 16. No change
- 17. No change
- 18. No change
- 19. No change
- E. No change
 - 1. No change
 - 2. No change
 - 3. No change
 - 4. No change
 - 5. No change
 - 6. No change
 - 7. No change
 - 8. No change
 - 9. No change
 - 10. No change
 - 11. No change
 - 12. No change
 - 13. No change
 - 14. No change
 - 15. No change
 - 16. No change
 - 17. No change

**ARTICLE 17. RADIATION SAFETY REQUIREMENTS FOR WIRELINE SERVICE OPERATIONS
AND SUBSURFACE TRACER STUDIES**

R12-1-1701. Reserved Definitions

“Energy compensation source (ECS)” means a small sealed source, with activity not exceeding 3.7 Mbq (100 microcuries), used within a logging tool, or other tool components, to provide a reference standard to maintain the tool’s calibration when in use.

“Tritium neutron generator target source” means a tritium source used within a neutron generator tube to produce neutrons for the use in well logging applications.

R12-1-1702. ~~Required Written Agreement~~ Agreement with Well Owner or Operator

- A.** ~~No licensee shall perform wireline service operations with a sealed source unless, prior to commencement of the operation, the licensee has a written agreement with the well operator, well owner, drilling contractor, or land owner that:~~
- ~~1. In the event a sealed source is lodged downhole, a reasonable effort at recovery will be made; and~~
 - ~~2. No person will be permitted to attempt recovery of the source in any manner which, in the opinion of the licensee, could rupture the source; and~~
 - ~~3. If the job site, equipment or personnel are contaminated with radioactive material, such equipment or personnel must be decontaminated before release from the site, and the job site must be decontaminated before release for unrestricted use; and~~
 - ~~4. In the event a decision is made to abandon the sealed source downhole, the requirements of R12-1-1751(C) and of the rules of the Oil and Gas Conservation Commission or the Department of Water Resources, as appropriate, shall be met.~~
- B.** ~~A copy of the agreement must be maintained at the field station during logging operations. The licensee shall retain a copy of the written agreement for 3 years after completion of the well logging operation.~~
- A.** A licensee shall perform wireline service (well logging) with a sealed source only after the licensee has a written agreement with the employing well owner or operator. This written agreement shall identify who will meet the following requirements:
- 1. If a sealed source becomes lodged in the well, a reasonable effort will be made to recover it.
 - 2. A person may not attempt to recover a sealed source in a manner which, in the licensee’s opinion, could result in its rupture.

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3. The radiation monitoring required in R12-1-1724(A) will be performed.
 4. If the environment, any equipment, or personnel are contaminated with licensed material, they shall be decontaminated before release from the site or release for unrestricted use; and
 5. If the sealed source is classified as irretrievable after reasonable efforts at recovery have been expended, the following requirements shall be implemented within 30 days:
 - a. Each irretrievable well logging source shall be immobilized and sealed in place with a cement plug.
 - b. A means shall be provided to prevent inadvertent intrusion on the source, unless the source is not accessible to any subsequent drilling operations; and
 - c. A permanent identification plaque, constructed of long lasting material such as stainless steel, brass, bronze, or monel, shall be mounted at the surface of the well, unless the mounting of the plaque is not practical. The size of the plaque shall be at least 17 cm (7 inches) square and 3 mm (1/8 inch) thick. The plaque shall contain:
 - i. The word "CAUTION";
 - ii. The radiation symbol (the color requirement in R12-1-428(A) need not be met);
 - iii. The date the source was abandoned;
 - iv. The name of the well owner or well operator, as appropriate;
 - v. The well name and well identification number(s) or other designation;
 - vi. An identification of the sealed source(s) by radionuclide and quantity;
 - vii. The depth of the source and depth to the top of the plug; and
 - viii. An appropriate warning, such as, "DO NOT RE-ENTER THIS WELL".
 - ix. Where appropriate, the Oil and Gas Conservation Commission or the Department of Water Resources shall be notified of the abandoned source.
- B.** A copy of the agreement shall be maintained at the field station during logging operations. The licensee shall retain a copy of the written agreement for three years after the completion of the well logging operation.
- C.** A licensee may apply in accordance with A.R.S. § 30-654(B) for Agency approval, on a case-by-case basis, of proposed procedures to abandon an irretrievable well logging source in a manner not otherwise authorized in subsection (A)(5).
- D.** A written agreement between the licensee and the well owner or operator is not required if the licensee and the well owner or operator are part of the same corporate structure or otherwise similarly affiliated. However, the licensee shall still otherwise meet the requirements in subsections (A)(1) through (A)(5).

R12-1-1715. Leak Testing of Sealed Sources

A licensee shall test each sealed source containing radioactive material for leakage in accordance with the provisions of R12-1-417. Records of the leak tests shall be retained for a period of 3 years from the date of the test, and a copy shall accompany the source to Job sites.

- A.** Each licensee who uses a sealed source shall have the source tested for leakage according to subsection (C). The licensee shall keep a record of leak test results in units of Becquerels (Bq) or microcuries, and retain the record for inspection by the Agency for three years after the leak test is performed.
- B.** The wipe of a sealed source shall be performed using a leak test kit or method approved by the Agency, NRC, or another Agreement State. The wipe sample shall be taken from the nearest accessible point to the sealed source where contamination might accumulate. The wipe sample shall be analyzed for radioactive contamination. The analysis shall be capable of detecting the presence of 185 Bq (0.005 microcuries) of radioactive material on the test sample and shall be performed by a person approved by the Agency, NRC or another Agreement State to perform the analysis.
- C. Test frequency.**
1. Each sealed source (except an energy compensation source (ECS)) shall be tested in accordance with R12-1-450. In the absence of a certificate from a transferor that a test has been made within the six months before the transfer, the sealed source may not be used until tested.
 2. Each ECS that is not exempt from testing in accordance with subsection (E) shall be tested at intervals not to exceed three years. In the absence of a certificate from a transferor that a test has been made within the three years before the transfer, the ECS may not be used until tested.
- D. Removal of leaking source from service.**
1. If the test conducted according to subsection (A) and (B) reveals the presence of 185 Bq (0.005 microcuries) or more of removable radioactive material, the licensee shall remove the sealed source from service immediately and have it decontaminated, repaired, or disposed of by an NRC or Agreement State licensee that is authorized to perform these functions. The licensee shall check the equipment associated with the leaking source for radioactive contamination and, if contaminated, have it decontaminated or disposed of by an Agency, NRC, or Agreement State licensee that is authorized to perform these functions.
 2. The licensee shall submit a report to the Agency, within five days of receiving the test results. The report shall describe the equipment involved in the leak, the test results, any contamination which resulted from the leaking source, and the corrective actions taken up to the time the report is made.

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E. The following sealed sources are exempt from the periodic leak test requirements set out in subsections (A) through (D) of this Section:

1. Hydrogen-3 (tritium) sources;
2. Sources containing licensed material with a half-life of 30 days or less;
3. Sealed sources containing licensed material in gaseous form;
4. Sources of beta- or gamma-emitting radioactive material with an activity of 3.7 Mbq [100 microcuries] or less; and
5. Sources of alpha- or neutron-emitting radioactive material with an activity of 0.37 Mbq [10 microcuries] or less.

**R12-1-1718. ~~Design, Performance and Certification Criteria for Sealed Sources Used in Downhole Operations~~
Design and Performance Criteria for Sources**

- A.** ~~Each sealed source, except those containing radioactive material in gaseous form, used in downhole operations after July 14, 1989, shall be certified by the manufacturer to meet the following minimum criteria:~~
1. ~~Be of doubly encapsulated construction;~~
 2. ~~Contain radioactive material whose chemical and physical forms are as insoluble and nondispersible as practical; and~~
 3. ~~Has been individually pressure tested to at least 170 meganewtons per square meter (24,656 pounds per square inch absolute) without failure.~~
- B.** ~~For sealed sources, except those containing radioactive material in gaseous form, used in downhole operations after July 14, 1989, a prototype shall have been tested and found to maintain its integrity after each of the following tests:~~
1. ~~The prototype source shall be held at a temperature of -40 degrees Celsius (C) for 20 minutes, then at 600 degrees C for 1 hour, and then be subjected to a thermal shock by dropping the temperature from 600 degrees C to 20 degrees C within 15 seconds.~~
 2. ~~A five kilogram steel hammer, 2.5 centimeters in diameter, shall be dropped from a height of 1 meter onto the prototype source as a test of impact resistance.~~
 3. ~~The prototype source shall be subjected to vibration at a frequency of from 25 Hz to 500 Hz and at an amplitude of 49 m/sec² (5g) for 30 minutes.~~
 4. ~~A 1 gram hammer with a 0.3 centimeter diameter pin attached shall be dropped from a height of 1 meter such that the end of the pin strikes the prototype source.~~
- C.** ~~Certification documents shall be retained for a period of 3 years after source disposal. If the source is abandoned downhole, the certification documents shall be retained indefinitely.~~
- A.** A licensee may use a sealed source for use in well logging applications if:
1. The sealed source is doubly encapsulated;
 2. The sealed source contains licensed material whose chemical and physical forms are as insoluble and nondispersible as practical; and
 3. Meets the requirements of subsection (A), (C), or (D).
- B.** For a sealed source manufactured on or before July 14, 1989, a licensee may use the sealed source, for use in well logging applications if it meets the requirements of USASI N5.10-1968, "Classification of Sealed Radioactive Sources," incorporated by reference and on file with the Agency and the Office of Secretary of State or the requirements in subsection (C) or (D). This incorporation by reference contains no future editions or amendments;
- C.** For a sealed source manufactured after July 14, 1989, a licensee may use the sealed source, for use in well logging applications if it meets the oil-well logging requirements of ANSI/HPS N43.6-1997, "Sealed Radioactive Sources--Classification," incorporated by reference and on file with the Agency and the Office of Secretary of State. This incorporation by reference contains no future editions or amendments
- D.** For a sealed source manufactured after July 14, 1989, a licensee may use the sealed source, for use in well logging applications, if the sealed source's prototype has been tested and found to maintain its integrity after each of the following tests:
1. Temperature. The test source shall be held at -40° C for 20 minutes, 600° C for one hour, and then be subject to a thermal shock test with a temperature drop from 600° C to 20° C within 15 seconds.
 2. Impact test. A 5 kg steel hammer, 2.5 cm in diameter, shall be dropped from a height of 1 m onto the test source.
 3. Vibration test. The test source shall be subject to a vibration from 25 Hz to 500 Hz at 5 g amplitude for 30 minutes.
 4. Puncture test. A 1 gram hammer and pin, 0.3 cm pin diameter, shall be dropped from a height of 1 m onto the test source.
 5. Pressure test. The test source shall be subject to an external pressure of 1.695 x 10⁷ pascals [24,600 pounds per square inch absolute].
- E.** The requirements in subsection (A), (B), (C), and (D) do not apply to sealed sources that contain licensed material in gaseous form.
- F.** The requirements in subsection (A), (B), (C), and (D) do not apply to energy compensation sources (ECS).

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R12-1-1723. Personnel Monitoring

- A. A licensee shall not permit any individual to act as a logging supervisor or to assist in the handling of sources of radiation unless each such individual wears either a film badge or a thermoluminescent dosimeter (TLD). Each film badge or TLD shall be assigned to and worn by only 1 individual. A licensee may not permit an individual to act as a logging supervisor or logging assistant unless that person is provided personnel dosimetry in accordance with R12-1-419.
- B. Where necessary in order to aid in determining the extent of an individual's exposure to concentrations of radioactive material, the licensee shall provide bioassay for individuals conducting tracer studies. The licensee shall provide bioassay services to individuals using licensed radioactive material in subsurface tracer studies, if required by license condition.
- C. Personnel monitoring records shall be maintained in accordance with R12-1-419(C).

R12-1-1724. ~~Reserved~~ Radioactive contamination control

- A. If the licensee detects evidence that a sealed source has ruptured or licensed materials have caused contamination, the licensee shall initiate immediately the emergency procedures required by R12-1-1722.
- B. If contamination results from the use of licensed material in well logging, the licensee shall decontaminate all work areas, equipment, and unrestricted areas.
- C. During efforts to recover a sealed source lodged in the well, the licensee shall continuously monitor, with an appropriate radiation detection instrument or a logging tool with a radiation detector, the circulating fluids from the well, if any, to check for contamination resulting from damage to the sealed source.

R12-1-1725. ~~Reserved~~ Uranium Sinker Bars

A licensee may use a uranium sinker bar in a well logging application only if it is legibly impressed with the words "Caution Radioactive-Depleted Uranium" and "Notify Civil Authorities (or company name) if Found."

R12-1-1726. ~~Reserved~~ Energy Compensation Source

- A. A licensee may use an energy compensation source (ECS) which is contained within a logging tool, or other tool components, only if the ECS contains a quantity of radioactive material that does not exceed 3.7 Mbq (100 microcuries).
- B. ECS, used in a well logging hole with surface casing for the protection of fresh water aquifers, is only subject to the requirements in R12-1-1715, R12-1-1716, and R12-1-1717.
- C. ECS, used in a well logging hole without a surface casing for protecting fresh water aquifers, is only subject to the requirements of R12-1-1702, R12-1-1715, R12-1-1716, R12-1-1717, R12-1-1728, and R12-1-1751.

R12-1-1727. ~~Reserved~~ Tritium Neutron Generator Target Source

- A. Use of a tritium neutron generator target source, containing quantities not exceeding 1.11 Tbq (30 Curies) and in a well with a surface casing to protect fresh water aquifers, is subject to the requirements of this Article except R12-1-1715, R12-1-718, and R12-1-1751.
- B. Use of a tritium neutron generator target source, containing quantities exceeding 1.11 Tbq (30 Curies) or in a well without a surface casing to protect fresh water aquifers, is subject to the requirements of this Article except R12-1-718.

R12-1-1728. ~~Reserved~~ Use of a Sealed Source in a Well Without a Surface Casing

A licensee may use a sealed source in a well without a surface casing for protecting fresh water aquifers only if the licensee follows a procedure for reducing the probability of the source becoming lodged in the well. The procedure shall approved by the Agency according to R12-1-308 or in a license issued by the NRC or another Agreement State.

R12-1-1751. ~~Notification of Incidents, Abandonment and Lost Sources~~ Notification of Incidents and Lost Sources; Abandonment Procedures for Irretrievable Sources

- ~~A. Notification of incidents and sources lost in other than downhole logging operations shall be made according to Article 4 of this Chapter.~~
- ~~B. Whenever a sealed source or device containing radioactive material is lodged in a well hole the licensee shall notify the Agency of the planned procedures for recovery prior to attempting recovery and shall:
 - 1. Monitor at the surface for the presence of radioactive contamination with a radiation survey instrument or logging tool during logging tool recovery operations; and
 - 2. Notify the Agency immediately by telephone if radioactive contamination is detected at the surface or if the source appears to be damaged.~~
- ~~C. When it becomes apparent that efforts to recover the radioactive source will not be successful, the licensee shall:
 - 1. Advise the well operator of the Agency rules regarding abandonment and an appropriate method of abandonment, which shall include:
 - a. The immobilization and sealing in place of the radioactive source with a cement plug;
 - b. The setting of a whipstock or other deflection device; and
 - e. The mounting of a permanent identification plaque at the surface of the well containing the appropriate information required by R12-1-1751(D).
 - 2. Notify the Agency by telephone, giving the circumstances of the loss and requesting approval of the proposed aban-~~

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- document procedures; and
3. File a written report with the Agency within 30 days of the abandonment, containing the following information:
 - a. Date of occurrence and a brief description of attempts to recover the source;
 - b. A description of the radioactive source involved, including radionuclide, quantity, and chemical and physical form;
 - c. Surface location and identification of well;
 - d. Results of efforts to immobilize and set the source in place;
 - e. Depth of the radioactive source;
 - f. Depth of the top of the cement plug;
 - g. Depth of the well; and
 - h. Information contained on the permanent identification plaque.
- D.** Whenever a sealed source containing radioactive material is abandoned downhole, the licensee shall provide a permanent plaque for posting the well or well bore. This plaque shall:
1. Be constructed of long-lasting material at least 7 inches square; and
 2. Contain the following information engraved on its face in lettering at least 1/4 inch high:
 - a. The word "CAUTION" in lettering at least twice the letter size of the other information;
 - b. The radiation symbol without the conventional color requirement;
 - c. The date of abandonment;
 - d. The name of the well operator or well owner;
 - e. The well name and well identification number or numbers, or other designation;
 - f. The sealed source or sources by radionuclide and quantity of activity;
 - g. The source depth and the depth to the top of the plug; and
 - h. An appropriate warning, depending on the specific circumstances of each abandonment.
- E.** The licensee shall immediately notify the Agency by telephone and subsequently by confirming letter if the licensee knows or has reason to believe that radioactive material has been lost in or to an underground potable water source. Such notice shall designate the well location and shall describe the magnitude and extent of loss of radioactive material, assess the consequences of such loss, and explain efforts planned or being taken to mitigate these consequences.
- A.** If a sealed source becomes lodged in a well, and when it becomes apparent that efforts to recover the sealed source will not be successful, the licensee shall:
1. Notify the appropriate Agency by telephone of the circumstances that resulted in the inability to retrieve the source and
 - a. Obtain Agency approval to implement abandonment procedures; or
 - b. That the licensee implemented abandonment before receiving Agency approval because the licensee believed there was an immediate threat to public health and safety; and
 2. Advise the well owner or operator, as appropriate, of the abandonment procedures under R12-1-1702(A) and (C); and
 3. Either ensure that abandonment procedures are implemented within 30 days after the sealed source has been classified as irretrievable or request an extension of time if unable to complete the abandonment procedures.
- B.** A licensee shall immediately notify the Agency by telephone and subsequently, within 30 days, by confirmatory letter if the licensee knows or has reason to believe that a sealed source has been ruptured. The letter shall designate the well or other location, describe the magnitude and extent of the escape of radioactive material, assess the consequences of the rupture, and explain efforts planned or being taken to mitigate the consequences.
- C.** A licensee shall notify the Agency of the theft or loss of radioactive materials, radiation overexposure, excessive levels and concentrations of radiation, and certain other accidents as required by R12-1-443, R12-1-444, and R12-1-445.
- D.** A licensee shall, within 30 days after a sealed source has been classified as irretrievable, make a report in writing to the Agency. The licensee shall send a copy of the report to each appropriate state or Federal agency that issued permits or otherwise approved of the drilling operation. The report shall contain the following information:
1. Date of occurrence;
 2. A description of the irretrievable well logging source involved including the radionuclide and its quantity, chemical, and physical form;
 3. Surface location and identification of the well;
 4. Results of efforts to immobilize and seal the source in place;
 5. A brief description of the attempted recovery effort;
 6. Depth of the source;
 7. Depth of the top of the cement plug;
 8. Depth of the well;
 9. The immediate threat to public health and safety justification for implementing abandonment if prior Agency approval was not obtained in accordance with subsection (C)(1)(b);
 10. Any other information, such as a warning statement, contained on the permanent identification plaque; and
 11. State and Federal agencies receiving copy of this report.