PROPOSED REGULATION OF THE

STATE BOARD OF HEALTH

LCB File No. R185-08

January 5, 2009

EXPLANATION – Matter in ***italics*** is new; matter in brackets **[**~~omitted material~~**]** is material to be omitted.

AUTHORITY: §§1-24 and 26-61, NRS 459.201; §25, NRS 439.150 and 459.201.

A REGULATION relating to radioactive material; regulating the possession or transfer of radium-226 and americium-241; adopting by reference certain federal regulations; requiring the registration of any new X-ray system, including fees to be paid; regulating the operation, maintenance and use of therapeutic X-ray systems to include electronic brachytherapy systems; setting forth the training requirements and duties of authorized users, authorized medical physicists and radiation safety officers; requiring a registrant who uses a therapeutic X-ray system to provide annual safety training for that system; setting forth proper operating procedures, including various safety and calibration checks, for facilities with therapeutic X-ray systems; requiring a registrant to establish and maintain a program for the management of quality and a program of quality assurance; revising certain provisions to include exempt quantities of radioactive materials; setting forth certain procedures for the production of radioactive drugs, including reporting to the Health Division of the Department of Health and Human Services; repealing certain provisions relating to medical uses of radiation; and providing other matters properly relating thereto.

Section 1. Chapter 459 of NAC is hereby amended by adding thereto the provisions set forth as sections 2 to 39, inclusive, of this regulation.

Sec. 2. ***"Accelerator-produced radioactive material" means, except as otherwise provided in NAC 459.0525, any material made radioactive by a particle accelerator.***

Sec. 3. ***"Authorized medical physicist" means a person who has met the requirements of section 27 of this regulation.***

Sec. 4. ***"By-product matter" means:***

1. Any by-product material other than underground ore bodies which are depleted by operations to extract uranium solution;

2. Any discrete source of radium-226 that is produced, extracted or converted after extraction for use in a commercial, medical or research activity;

3. Any material which:

(a) Is an accelerator-produced radioactive material; and

(b) Is produced, extracted or converted after extraction for use in a commercial, medical or research activity; or

4. Except for source material, any discrete source of naturally occurring radioactive material which:

(a) The Nuclear Regulatory Commission, in consultation with the Administrator of the United States Environmental Protection Agency, the Secretary of Energy, the Secretary of Homeland Security and the head of any other appropriate federal agency, determines would pose a threat similar to the threat posed by a discrete source of radium-226 to the public health and safety or the common defense and security; and

(b) Is used in a commercial, medical or research activity.

Sec. 5. *"Consortium" means an association of medical use licensees and a production facility for radionuclides from positron emission tomography, located at an educational institution or medical facility, which:*

1. Are in the same geographical area; and

2. Share in the operation and maintenance costs of the production facility which produces radionuclides from positron emission tomography for use in producing radioactive

drugs within the consortium for noncommercial distribution among the associated members of the consortium for medical use.

Sec. 6. *"Discrete source" means a radionuclide that is processed so that its concentration within a material is purposely increased for use in commercial, medical or research activities.*

Sec. 7. *"Electronic brachytherapy" means a method of radiation therapy that uses X-rays which are electronically generated to deliver a radiation dose at a distance of up to a few centimeters by intracavitary, intraluminal or interstitial application or by an application with the source in contact with, or very close to, the body surface.*

Sec. 8. *"Electronic brachytherapy source" means the X-ray tube component used in an electronic brachytherapy system.*

Sec. 9. *"Electronic brachytherapy system" means the system used to produce and deliver therapeutic radiation, including, without limitation, the electronic brachytherapy source, the control mechanism, the cooling system and the power source.*

Sec. 10. *"Medical event" means any event, other than an event that is the result of patient intervention, in which the administration of radiation results in:*

1. A dose that differs from the prescribed dose;

2. The total dose delivered differing from the prescribed dose by 20 percent or more;

3. The fractionated dose delivered differing from the prescribed dose for a single fraction by 50 percent or more; or

4. An administration of a dose to the wrong person or at the wrong treatment site.

Sec. 11. *"Mobile electronic brachytherapy" means an electronic brachytherapy system which is transported from one location to be used at a location which is not the address of record.*

Sec. 12. ***"Portable shielding" means shielding which may be moved easily by a mobility device or by hand and placed in a primary or secondary beam to reduce the radiation exposure to a person.***

Sec. 13. ***"Specific training on the system provided by the manufacturer" means training in the operation of the system, safety procedures and clinical use of the system for the uses approved by the United States Food and Drug Administration, and may be fulfilled:***

1. By satisfactory completion of a training program provided by the manufacturer or an approved institution contracted by the manufacturer; or

2. By receiving training from an authorized user or authorized medical physicist who is authorized by the Division to use the system.

Sec. 14. ***"Waste" means any low-level radioactive waste containing source, special nuclear or by-product matter specified in subsection 1 of section 4 of this regulation that is acceptable for disposal in a land disposal facility. The term does not include any high-level radioactive waste, transuranic waste, spent nuclear fuel or by-product matter specified in subsections 2 and 3 of section 4 of this regulation.***

Sec. 15. ***A licensee may dispose of by-product matter specified in subsections 2 and 3 of section 4 of this regulation:***

1. At a facility licensed pursuant to 10 C.F.R. Part 61 or equivalent regulations of an agreement state if it meets the requirements of NAC 459.313; or

2. At any disposal facility authorized to dispose of such material in accordance with any federal or state solid or hazardous waste law, including the Solid Waste Disposal Act, as authorized pursuant to the Energy Policy Act of 2005, Public Law 109-058.

Sec. 16. *1. A general license is hereby issued to acquire, receive, possess, use or transfer radium-226 which is contained in the following products, if those products were manufactured at least 60 days before the effective date of this regulation:*

(a) Antiquities which were originally intended for use by the general public and distributed in the late 19th and early 20th centuries, including, without limitation, radium emanator jars, revigators, radium water jars, radon generators, refrigerator cards, radium bath salts and heating pads;

(b) Nonintact timepieces and timepiece hands and dials which are no longer installed in timepieces;

(c) Luminous items installed in air, marine or land vehicles;

(d) All other luminous products, if not more than 100 items are used or stored at the same location during the same time; and

(e) Radium sources which contain not more than 1 microcurie (0.037 megabecquerel) of radium-226, including, without limitation, discrete survey instrument check sources, sources contained in radiation measuring instruments, sources used in educational demonstrations such as cloud chambers and spinthariscopes, electron tubes, lightning rods, ionization sources, static eliminators or items otherwise designated by the Division.

2. A person who acquires, receives, possesses, uses or transfers radium-226 contained in any product listed in subsection 1 in accordance with a general license issued pursuant to that subsection is exempt from the provisions of NAC 459.124, 459.320 to 459.374, inclusive, and 459.780 to 459.794, inclusive, and 10 C.F.R. Part 21.

3. A person who acquires, receives, possesses, uses or transfers a product containing radium-226 in accordance with a general license issued pursuant to subsection 1 shall:

(a) Notify the Division within 30 days, in writing, if there is any indication of possible damage to the product which may result in a loss of the radioactive material, including a brief description of the event in which the damage occurred and any remedial action taken;

(b) Ensure that the product and any radioactive material from the product are disposed of pursuant to section 15 of this regulation or by transfer to a person authorized by a specific license to receive the radium-226 in the product or as otherwise approved by the Division;

(c) Not export the product containing radium-226; and

(d) Respond to a written request from the Division to provide information relating to the acquisition, receipt, possession, use or transfer of radium-226 contained in any product listed in subsection 1 within 30 days after the request, unless another period is specified in the request. If the person is unable to provide the requested information within the required period, he may request an extension of time from the Division in writing at the address specified in NAC 459.134.

4. Except for the assembly or disassembly of timepieces, a general license issued pursuant to subsection 1 does not authorize a person to manufacture, assemble, disassemble, repair or import products which contain radium-226.

Sec. 17. *An application for a specific license to manufacture or initially transfer calibration or reference sources which contain americium-241 for distribution to a person who holds a general license issued pursuant to NAC 459.224 will be approved:*

1. If the applicant satisfies the general requirements of NAC 459.238;

2. If the applicant submits sufficient information regarding each type of calibration or reference source relating to the evaluation of the potential radiation exposure, including, without limitation:

(a) The chemical and physical form of the source and maximum quantity of americium-241 in the source;

(b) The details of construction and design of the source;

(c) The details of the method of incorporation and binding of the americium-241 in the source;

(d) The procedure for and results of a prototype testing of a source designed to contain more than 0.005 microcurie (185 becquerels) of americium-241 in order to demonstrate that the americium-241 contained in each source will not be released or removed from the source under normal conditions of use;

(e) The details of procedures for quality control which will be followed in the manufacture of the source;

(f) A description of the labeling to be affixed to the source or the storage container for the source; and

(g) Any additional information, including experimental studies and tests, required by the Division to facilitate a determination of the safety of the source;

3. If each source contains not more than 5 microcuries of americium-241; and

4. If the Division determines, for any source which contains more than 0.005 microcurie (185 becquerels) of americium-241 that:

(a) The method of incorporation and bonding of the americium-241 in the source is such that the americium-241 will not be released or removed from the source under normal conditions of use and handling of the source; and

(b) The source has been subjected to, and has passed in a satisfactory manner, the prototype tests prescribed by 10 C.F.R. § 32.102, Schedule C, or an equivalent regulation of an agreement state.

Sec. 18. *1. Before transferring a source containing more than 0.1 microcurie of americium-241 or radium-226 to a person who holds a general license issued pursuant to NAC 459.224, a person who holds a specific license issued pursuant to section 17 of this regulation shall perform a dry wipe test on the source. The test must be performed by wiping with moderate pressure the entire radioactive surface of the source with a filter paper.*

2. The radioactivity of the filter paper after the dry wipe test must be measured by a radiation detection instrument which is capable of detecting 0.005 microcurie (185 becquerels) of americium-241 or radium-226.

3. If the test discloses more than 0.005 microcurie (185 becquerels) of radioactive material, the source shall be deemed to be leaking americium-241 or radium-226 and must not be transferred.

Sec. 19. *A person who holds a general license issued pursuant to section 16 of this regulation shall affix a label to each source or storage container for the source, which contains sufficient information to ensure the safe use and storage of the source and shall include in the label the information contained in NAC 459.224, or a substantially similar statement.*

Sec. 20. *The provisions of 10 C.F.R. §§ 71.0(c), 71.1(a), 71.3, 71.4, 71.15, 71.17, 71.19(a), 71.19(b), 71.19(c), 71.20 to 71.23, inclusive, 71.47, 71.83 to 71.89, inclusive, 71.97, 71.101(a), 71.101(b), 71.101(c), 71.101(g), 71.105, 71.127 to 71.137, inclusive, and Appendix A*

to Part 71, as those provisions existed on November 14, 2007, are hereby adopted by reference, subject to the following:

1. The exclusion of the following definitions from 10 C.F.R. § 71.4:

(a) "Close reflection by water";

(b) "Licensed material";

(c) "Optimum interspersed hydrogenous moderation";

(d) "Spent nuclear fuel or spent fuel"; and

(e) "State."

2. The substitution of "October 1, 2011" for "October 1, 2008."

3. The substitution of the following rule references:

(a) "NAC 459.737" for "§ 34.31(b) of this chapter" as found in 10 C.F.R. § 71.101(g);

(b) "Subsection 1 of NAC 459.339" for "10 C.F.R § 20.1502";

(c) "NAC 459.3062" for "10 C.F.R. Part 35";

(d) "Subsection 5 of NAC 459.3585" for "10 C.F.R. § 20.1906(e)";

(e) "Section 25 of this regulation" for "10 C.F.R. § 71.5";

(f) "10 C.F.R. §§ 71.101(a), 71.101(b), 71.101(c)(1), 71.101(g), 71.105 and 71.127 to 71.137, inclusive," for "subpart H of this part" or "subpart H" except in 10 C.F.R. §§ 71.17(b), 71.20(b), 71.21(b), 71.22(b) and 71.23(b);

(g) "10 C.F.R. §§ 71.0(c), 71.1(a), 71.3, 71.4, 71.17(c)(2), 71.20(c)(2), 71.21(d)(2), 71.83 to 71.89, inclusive, 71.97, 71.101(b), 71.101(c), 71.101(g), 71.105 and 71.127 to 71.137, inclusive," for "subparts A, G and H of this part";

(h) "10 C.F.R. § 71.47" for "subparts E and F of this part"; and

(i) "10 C.F.R. §§ 71.101(a), 71.101(b), 71.101(c)(1), 71.101(g), 71.105 and 71.127 to 71.137, inclusive," for "§§ 71.101 through 71.137."

4. The substitution of the following terms:

(a) "Division" for

(1) "Commission" in 10 C.F.R. §§ 71.0(c), 71.17(a), 71.20(a), 71.21(a), 71.22(a), 71.23(a) and 71.101(c);

(2) "Director, Division of Nuclear Safety, Office of Nuclear Security and Incident Response" in 10 C.F.R. §§ 71.97(c)(1) and 71.97(f)(1);

(3) "Director, Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001" in 10 C.F.R. § 71.97(c)(3)(iii); and

(4) "NRC" in 10 C.F.R. § 71.101(f);

(b) "The Nuclear Regulatory Commission or an agreement state" for "Commission" in 10 C.F.R. § 71.3;

(c) "The Governor of Nevada" for:

(1) "The governor of a State" in 10 C.F.R. § 71.97(a);

(2) "Each appropriate governor" in 10 C.F.R. § 71.97(c)(1);

(3) "The governor" in 10 C.F.R. § 71.97(c)(3);

(4) "The governor of the State" in 10 C.F.R. § 71.97(e);

(5) "The governor of each State" in 10 C.F.R. § 71.97(f)(1); and

(6) "A governor" in 10 C.F.R. § 71.97(e);

(d) "State of Nevada" for "State" in 10 C.F.R. §§ 71.97(a), 71.97(b)(2) and 71.97(d)(4);

(e) "The Governor of Nevada's" for:

(1) "The governor's" in 10 C.F.R. §§ 71.97(a), 71.97(c)(3), 71.97(e) and 71.97(f)(1);

(2) "Governor's" in 10 C.F.R. §§ 71.97(c)(1) and 71.97(e); and

(3) "Governors'" in 10 C.F.R. § 71.97(c)(3)(iii);

(f) "Specific or general" for "NRC" in 10 C.F.R. § 71.0(c);

(g) "The Division" for "ATTN: Document Control Desk, Director, Spent Fuel Project Office, Office of Nuclear Material Safety and Safeguards" in 10 C.F.R. § 71.101(c)(1);

(h) "Each" for "Using an appropriate method listed in § 71.1(a), each" in 10 C.F.R. § 71.101(c)(1);

(i) "The material must be contained in a Type A package meeting the requirements of 49 C.F.R. § 173.417(a)" for "The fissile material need not be contained in a package which meets the standards of subparts E and F of this part; however, the material must be contained in a Type A package. The Type A package must also meet the DOT requirements of 49 C.F.R. 173.417(a)" as found in 10 C.F.R. §§ 71.22(a) and 71.23(a);

(j) "Licensee" for "licensee, certificate holder, and applicant for a CoC"; and

(k) "Licensee is" for "licensee, certificate holder, and applicant for a CoC are."

Sec. 21. *1. Each licensee who transports licensed material outside the site of usage, as specified in the license issued by the Nuclear Regulatory Commission or an agreement state, or where transport is on public highways, or who delivers licensed material to a carrier for transport, shall comply with the applicable requirements of the regulations of the United States Department of Transportation set forth in 49 C.F.R. Parts 107, 171 to 180, inclusive, and 390 to 397, inclusive, appropriate to the mode of transport.*

2. The licensee shall particularly note those regulations specified in the following areas:

(a) Accident reporting--49 C.F.R. §§ 171.15 and 171.16.

(b) Hazardous material employee training--49 C.F.R. §§ 172.700 to 172.704, inclusive.

(c) Hazardous material shipper or carrier registration--49 C.F.R. §§ 107.601 to 107.620, inclusive.

(d) Marking and labeling--49 C.F.R. §§ 172.300 to 172.338, inclusive, 172.400 to 172.407, inclusive, and 172.436 to 172.441, inclusive, of Subpart E.

(e) Packaging--49 C.F.R. §§ 173.1 to 173.13, inclusive, 173.21 to 173.40, inclusive, and 173.401 to 173.477, inclusive.

(f) Placarding--49 C.F.R. §§ 172.500 to 172.560, inclusive, and Appendices B and C.

(g) Security plans--49 C.F.R. §§ 172.800, 172.802 and 172.804.

(h) Shipping papers and emergency information--49 C.F.R. §§ 172.200 to 172.205, inclusive, and 172.600 to 172.606, inclusive.

3. The licensee shall also note the regulations of the United States Department of Transportation relating to the following modes of transportation:

(a) Air--49 C.F.R. Part 175;

(b) Public Highway--49 C.F.R. Parts 177 and 390 to 397, inclusive;

(c) Rail--49 C.F.R. §§ 174.1 to 174.86, inclusive, and 174.700 to 174.750, inclusive; and

(d) Vessel--49 C.F.R. §§ 176.1 to 176.99, inclusive, and 176.700 to 176.720, inclusive.

4. If the regulations of the United States Department of Transportation are not applicable to a shipment of licensed material, the licensee shall conform to the standards and requirements of the United States Department of Transportation specified in subsection 1 to the same extent as if the shipment or transportation were subject to those regulations. A request for a modification, waiver or exemption from those requirements, and any notification referred to in those requirements, must be filed with, or made to, the Division.

Sec. 22. *1. Except as otherwise provided in subsection 4, each person who acquires an electronic brachytherapy system or an additional therapeutic X-ray system shall apply to the Division for registration of the machine within 30 days after installing the machine. The application must include, without limitation:*

(a) A list of all authorized users, radiation therapy technologists and operators;

(b) The name of the radiation safety officer and radiation safety committee members;

(c) A copy of the most recent record of surveys, calculations and quality assurance checks on each machine;

(d) A current copy of the program for the management of quality created pursuant to section 38 of this regulation;

(e) A current copy of the program of quality assurance created pursuant to section 39 of this regulation; and

(f) The certification of the manufacturer.

2. No X-ray system may be used on a person until the facility has received a certificate of registration from the Division.

3. A separate registration is required for facilities which:

(a) Are not contiguous;

(b) Are not under a single radiation safety program; or

(c) Are not under the same management.

4. The provisions of this section do not apply to X-ray systems which are in transit or storage.

Sec. 23. *1. Only a representative of the manufacturer of the electronic brachytherapy system who is registered as a vendor may install the system if the installation includes:*

(a) Work on the shielding of the source of radiation;

(b) Work on the driving unit of the source of radiation; or

(c) Work on any other electronic or mechanical component which could expose the source of radiation, reduce the shielding around the source of radiation or compromise the radiation safety of the system or the source of radiation.

2. Only a representative of the manufacturer of the electronic brachytherapy system who is registered as a vendor or an authorized medical physicist may adjust, maintain, repair or service an electronic brachytherapy system and must do so in accordance with the guidelines of the manufacturer.

3. A registrant shall maintain the record of any installation, maintenance, adjustment, service or repair of an electronic brachytherapy system for at least 5 years.

Sec. 24. *1. Before a facility may install a new therapeutic X-ray system, or installs a therapeutic X-ray system with a higher energy output into an existing room, the facility must submit the following information for approval by the Division:*

(a) General information concerning the facility, including, without limitation:

(1) The legal name of the facility;

(2) A telephone number and street address for the facility;

(3) The name, address, telephone number and registration or license number of the authorized medical physicist responsible for the preparation of the shielding plan;

(4) The name and telephone number of the facility supervisor; and

(5) Whether or not the installation is for a new facility or a modification to an existing facility;

(b) Proof that a primary protective barrier covers all wall, floor and ceiling areas struck by the useful beam of the system;

(c) Proof that a secondary protective barrier covers all wall, floor and ceiling areas which are not covered by a primary protective barrier; and

(d) Information regarding the type and thickness of the portable shielding used to ensure compliance with NAC 459.400 to 459.624, inclusive, and sections 15 to 39, inclusive, of this regulation and a procedure which demonstrates the use of the shielding before treatment.

2. Each therapeutic X-ray system must have such primary and secondary protective barriers as are required to comply with the provisions of NAC 459.400 to 459.624, inclusive, and sections 15 to 39, inclusive, of this regulation.

3. Portable shielding may be used to comply with the provisions of NAC 459.400 to 459.624, inclusive, and sections 15 to 39, inclusive, of this regulation.

Sec. 25. *1. A registrant shall pay an annual fee for the registration and inspection of an electronic brachytherapy system in the amount of $4,400.*

2. The registration fee is due within 30 days after the acquisition of the system.

3. An annual renewal fee must be paid not later than the date on which the registration expires. If the fee is not received by that date, the registrant shall:

(a) Cease operating the radiation machine on that date; and

(b) Within 5 days after the registration expires, submit to the Division:

(1) An application for a renewal of the registration;

(2) The fee set forth in subsection 1; and

(3) A fee for late payment that is equal to twice the amount of the registration fee.

Sec. 26. *1. A registrant for any therapeutic X-ray system shall require an authorized user to:*

(a) Be an authorized user of radioactive sources for brachytherapy pursuant to the radioactive material license of the registrant who had completed specific training on the system provided by the manufacturer and approved by the Division; or

(b) Be a physician who:

(1) Is licensed by this State as a medical doctor or doctor of osteopathy;

(2) Is certified in:

(I) Radiation oncology or therapeutic radiology by the American Board of Radiology;

(II) Radiation oncology by the American Osteopathic Board of Radiology;

(III) Radiology, with specialization in radiotherapy, as a Fellow of the Faculty of Radiology or Fellow of the Royal College of Radiologists of the United Kingdom; or

(IV) Therapeutic radiology by the Royal College of Physicians and Surgeons of Canada;

(3) Has completed specific training on the system provided by the manufacturer and approved by the Division; and

(4) Has had his training reviewed and approved by the Division.

2. An authorized user:

(a) Must be physically present during the initiation of all patient treatment or identify in writing an authorized medical physicist who is trained in the operation and emergency

response for the system who will be physically present during the initiation of all patient treatments;

(b) Shall review the case of a patient to ensure that the therapeutic X-ray procedure is appropriate;

(c) Shall regularly review the progress of each patient receiving therapy and modify the originally prescribed dose if necessary; and

(d) Shall prevent the clinical use of a system in which a malfunction has been identified pursuant to the spot check required by section 35 of this regulation, until such time as the spot check has been evaluated and the malfunction corrected or the equipment repaired.

3. The training and experience required by subsection 1 must be obtained within the 7 years immediately preceding the date of the application, or the person must have related continuing education experience in the same type of radiation therapy.

4. The registrant shall retain all records of both initial training and annual training for at least 3 years.

Sec. 27. *1. A registrant for any therapeutic X-ray system shall require an authorized medical physicist to:*

(a) Be currently licensed as a therapeutic radiological physicist by a professional organization specified by the Division or in another state;

(b) Have completed specific training on the system provided by the manufacturer and approved by the Division; and

(c) Have had his training reviewed and approved by the Division.

2. An authorized medical physicist shall:

(a) Evaluate the output from the electronic brachytherapy system;

(b) Prepare the necessary dosimetric information;

(c) Supervise and review the treatment calculations before the initial treatment of any treatment site;

(d) Establish written procedures for performing a spot check pursuant to section 35 of this regulation;

(e) Supervise the conducting of a spot check required by section 35 of this regulation;

(f) Review a spot check conducted pursuant to section 35 of this regulation within 2 days after completion;

(g) Notify the registrant, in writing, of any failures detected during the spot check within 24 hours after the failure is detected;

(h) Consult with the authorized user in treatment planning, as needed; and

(i) Perform any calculations and assessments of patient treatments which may constitute medical events.

3. The training and experience required by subsection 1 must be obtained within the 7 years immediately preceding the date of the application, or the person must have related continuing education experience in the same type of radiation therapy.

4. The registrant shall retain all records of both initial training and annual training for at least 3 years.

Sec. 28. *1. A registrant for any therapeutic X-ray system shall require a radiation safety officer to:*

(a) Have completed specific training on the system provided by the manufacturer and approved by the Division;

(b) Be an authorized user or authorized medical physicist;

(c) Be certified by:

(1) The American Board of Health Physics in Comprehensive Health Physics;

(2) The American Board of Radiology in Radiological Physics, Therapeutic Radiological Physics or Medical Nuclear Physics;

(3) The American Board of Nuclear Medicine;

(4) The American Board of Science in Nuclear Medicine; or

(5) The American Board of Medical Physicists; or

(d) Have completed classroom and laboratory training, including, without limitation:

(1) One hundred hours of radiation physics and instrumentation;

(2) Thirty hours of radiation protection;

(3) Twenty hours of mathematics pertaining to the use and measurement of radiation;

(4) Twenty hours of radiation biology;

(5) Thirty hours of medical therapy training; and

(6) One year of full-time experience in radiation safety at a medical institution under the supervision of a radiation safety officer.

2. A radiation safety officer shall:

(a) Implement a radiation safety program in the facility;

(b) Ensure that radiation safety activities are performed in accordance with approved procedures and regulatory requirements in the daily operation of a therapeutic X-ray system;

(c) Promptly investigate and implement corrective actions when:

(1) An incident which compromises safety occurs;

(2) A recordable event occurs; or

(3) An event occurs which deviates from approved radiation safety practices;

(d) Prepare a written report of any investigation conducted pursuant to paragraph (c) and the corrective action taken;

(e) Carry out written policies and procedures for:

(1) The safe use of a therapeutic X-ray system;

(2) The performance of radiation surveys as necessary;

(3) The performance of checks on survey instruments and other safety equipment; and

(4) The training of personnel who frequent or work in areas where radiation is present;

(f) Keep on file:

(1) A copy of all records and reports required by the Division;

(2) A copy of NAC 459.010 to 459.950, inclusive, and sections 2 to 39, inclusive, of this regulation;

(3) A copy of each registration correspondence with the Division; and

(4) The written policies and procedures required by this section; and

(g) Review the occupational radiation exposure of all personnel working with X-ray systems at least once every 3 months.

3. The training and experience in subsection 1 must be obtained within the 7 years immediately preceding the date of the application, or the person must have related continuing education experience in the same type of radiation therapy.

4. The registrant shall retain all records of both initial training and annual training for at least 3 years.

Sec. 29. *1. A registrant for any therapeutic X-ray system shall require a person who is not an authorized user to:*

(a) Operate the therapeutic X-ray system solely under the direct supervision of an authorized user;

(b) Be certified as a radiation therapy technologist by the American Registry of Radiologic Technologists or a certifying organization accepted by the American Registry of Radiologic Technologists; and

(c) Have completed specific training on the system provided by the manufacturer and approved by the Division.

2. The training and experience in subsection 1 must be obtained within the 7 years immediately preceding the date of the application, or the person must have related continuing education experience in the same type of radiation therapy.

3. The registrant shall retain all records of both initial training and annual training for at least 3 years.

Sec. 30. *A registrant shall annually provide instruction on radiation safety to each person who provides patient care and treatment planning for patients. The instruction must include, without limitation:*

1. Instruction on the operation of each device used by the person;

2. Safety procedures; and

3. Any updates on clinical use of each of those devices.

Sec. 31. *1. A therapeutic X-ray system must not be used for the irradiation of patients unless the facility complies with the criteria of the United States Food and Drug Administration for systems approved for human use.*

2. When not in use, the therapeutic X-ray system must be secured and unauthorized use or access prevented.

3. When a patient must be held in position for radiation therapy, mechanical supporting or restraining devices must be used.

4. A copy of the current operating and emergency procedures must be kept in a visible place in the treatment room.

5. Except for the patient, a person must not be exposed to radiation during the treatment and the facility must use portable shielding to reduce the occupational dose.

6. A registrant shall:

(a) Notify the radiation safety officer, or his designee, and an authorized user as soon as practicable if a patient or human research subject has a medical emergency and dies;

(b) Allow a person in the treatment room during treatment only after obtaining the approval of the authorized user, radiation safety officer or authorized medical physicist;

(c) Prevent the operation of more than one device which produces radiation in a treatment room; and

(d) Develop, implement and maintain written procedures for responding to a situation in which an operator is unable to complete the treatment in compliance with the written directive. The procedures must include, without limitation:

(1) Instructions for responding to equipment failures and the names of the persons who are responsible for carrying out any corrective actions;

(2) The process for restricting access to and marking the treatment area to minimize the risk of inadvertent exposure to radiation; and

(3) The names and telephone numbers of the authorized users, authorized medical physicist and radiation safety officer who must be contacted if the system operates abnormally.

Sec. 32. *1. The registrant shall perform, or cause to be performed, a radiation protection survey on each new facility or any existing facility which has not been previously surveyed.*

2. Each facility location authorized to use a therapeutic X-ray device must possess portable monitoring equipment which has been calibrated appropriately and which includes, without limitation, a radiation measurement survey instrument capable of measuring dose rates over the range 0.1 µSv (0.01 mrem) per hour to 10 mSv (1000 mrem) per hour. The instrument must be calibrated annually.

3. The radiation protection survey must:

(a) Be performed by, or under the direction of, an authorized medical physicist or radiation safety officer;

(b) Be performed under the following conditions:

(1) The beam must be on;

(2) The largest clinically available treatment field must be used;

(3) A scattering phantom in the useful beam of radiation for secondary barriers must be present;

(4) A phantom must not be used for primary barriers; and

(5) Portable shielding in the primary and secondary beams must be taken into consideration; and

(c) Ensure that the levels of radiation in both restricted and unrestricted areas are not likely to cause exposures to persons in excess of the limits set by this chapter.

4. In addition to the original survey, a radiation protection survey must be performed:

(a) After any changes are made in the shielding of the treatment room or the portable shielding;

(b) After any changes are made in the location of the therapeutic X-ray system within the treatment room;

(c) After relocating the therapeutic X-ray system; and

(d) Before using the therapeutic X-ray system in a manner that could result in increased radiation levels in areas outside the treatment room.

5. The record of the survey must include, without limitation:

(a) All instances where the facility is in violation of applicable regulations;

(b) The date the measurements were taken;

(c) The reason the survey was required;

(d) The name of the manufacturer of the system surveyed;

(e) The model and serial numbers of the system surveyed;

(f) The instrument used to measure the radiation levels;

(g) A diagram of the areas surrounding the treatment room which were surveyed;

(h) The measured dose rates at several points in each area, expressed in microsieverts or millirems per hour;

(i) The maximum level of radiation over a period of 1 week for each restricted and unrestricted area; and

(j) The signature of the person who conducted the survey.

Sec. 33. *1. An authorized medical physicist shall validate the output of an electronic brachytherapy system.*

2. Measurements for calibration must be made:

(a) For each X-ray tube;

(b) After any repair which affects the generation of the X-ray beam; or

(c) At any time indicated by the spot check required by section 35 of this regulation.

3. Calibration must include, without limitation, if applicable:

(a) A determination of the output of the system within 2 percent of the expected value, or a determination of the output if there is no expected value;

(b) A determination of the timer accuracy and linearity over the typical range of use;

(c) A determination of the proper operation of the devices used for back-up control of exposure;

(d) An evaluation of whether the distribution of the relative dose about the source is within 5 percent of that which is expected; and

(e) A determination of the positioning of an X-ray tube within 1 millimeter in the applicator.

4. The validation of the output must use a dosimetry system using approved guidelines, including, without limitation, the guidelines of the American Association of Physicists in Medicine to measure the output.

5. A registrant shall make the calibration measurements required by this section in accordance with any current recommendations from a nationally recognized professional association, including, without limitation, the American Association of Physicists in Medicine, or an equivalent alternative method, for electronic brachytherapy systems. If a protocol from a nationally recognized professional association is not available, a registrant shall use the protocol included in the operation manual for the system from the manufacturer.

Sec. 34. *1. For an electronic brachytherapy system, calibration of the dosimetry system must include the source and energy in use and must use an established protocol such as the TG-21 protocol established by the American Association of Physicists in Medicine.*

2. A registrant shall ensure that a dosimetry system is available to take measurements during a quality assurance check. This system may be the same system used for calibrating the electronic brachytherapy system pursuant to section 33 of this regulation.

3. A registrant shall keep a record of each calibration, intercomparison and comparison of the dosimetry system for the duration of the registration. The record must include:

(a) The date of the calibration, intercomparison or comparison;

(b) The model number and serial number of the system which was calibrated, intercompared or compared;

(c) The name of the person who performed the calibration, intercomparison or comparison; and

(d) If an intercomparison is performed, evidence that the intercomparison was performed by, or under the direct supervision of, the authorized medical physicist of record.

4. A registrant shall furnish a copy of all survey and calibration records to the Division within 30 days after the completion of the survey or calibration.

Sec. 35. *1. A registrant shall ensure that a program is in place to perform spot checks on each electronic brachytherapy system:*

(a) At the beginning of each day on which the system will be used;

(b) Each time the system is moved to a new room or site; and

(c) After the installation of an X-ray tube.

2. The spot check must ensure the following components are operating properly:

(a) The indicator lights for radiation exposure on the electronic brachytherapy system and on the control console;

(b) The viewing and intercom systems in each facility, if applicable;

(c) The radiation monitors, if applicable; and

(d) The integrity of all cables, catheters or parts of the system that carry high voltages.

3. A spot check of the dosimetry of a system must include a check which indicates that the output of the X-ray source is within 3 percent of the expected value, including, as appropriate:

(a) Output as a function of time;

(b) Output as a function of a setting on a monitor chamber;

(c) Verification of the consistency of the dose distribution to within 3 percent of that found during calibration;

(d) Validation of the operation of methods of positioning to ensure that the treatment dose exposes the intended location within 1 millimeter; and

(e) Inspection of all treatment components for imperfections on the day of use.

4. A registrant shall retain a record of each spot check for at least 3 years. The record must include:

(a) The date of the spot check;

(b) The name of the manufacturer, model number and serial number of the electronic brachytherapy system checked;

(c) Notations which indicate the operability of radiation monitors, indicator lights for source exposure, viewing and intercom systems, applicators, source transfer tubes, transfer tube-applicator interfaces and the accuracy of source positioning, as applicable; and

(d) The name and signature of the person who performed the spot check.

Sec. 36. *A registrant who provides services for mobile electronic brachytherapy shall:*

1. Check all survey instruments before medical use at each location of use or on each day of use, whichever is more frequent;

2. Account for the X-ray tube in the system before departing from a location; and

3. Perform all the periodic spot checks required by section 35 of this regulation at each location.

Sec. 37. *1. Where applicable, an authorized medical physicist shall perform an acceptance test on the treatment planning system of computer systems used for therapy, using a published protocol which is accepted by a nationally recognized body. The acceptance test must verify, as applicable:*

(a) The input parameters for a source which are required by the dose-calculation algorithm;

(b) The accuracy of dose, dwell-time and treatment-time calculations at representative points;

(c) The accuracy of isodose plots and graphic displays;

(d) The accuracy of the software used to determine source positions from images; and

(e) If the treatment planning system is different from the treatment delivery system, the accuracy of electronic transfer of the treatment delivery parameters to the treatment delivery unit from the treatment planning system.

2. The position indicators in an applicator must be compared to the actual position of the source or planned dwell positions as appropriate at the time of commissioning.

3. Before each regimen for patient treatment, the parameters for the treatment must be evaluated and approved by the authorized user and the authorized medical physicist for

accuracy through means which are independent of those that were used for the determination of the parameters.

Sec. 38. *1. Each registrant shall establish and maintain a written program for the management of quality to ensure that radiation therapy systems are used as directed by the authorized user. The program must include, without limitation, the following objectives:*

(a) Except where a delay to provide a written directive would jeopardize the health of a patient, a written directive must be prepared before a dose of therapeutic radiation is administered;

(b) If the emergent nature of the condition of a patient threatens the health of the patient, an oral directive to administer treatment is acceptable, so long as the information contained in the oral directive is documented immediately in the record of the patient and a written directive is prepared within 24 hours;

(c) If a delay to provide a written revision to an existing written directive jeopardizes the health of a patient, an oral revision to the existing written directive may be given, so long as the oral revision is immediately documented in the record of the patient and a revised written directive is signed by the authorized user within 48 hours;

(d) A written directive which changes an existing written directive may be made for any therapeutic procedure, so long as the revised directive is signed and dated by an authorized user before the next administration of the electronic brachytherapy dose or fractional dose;

(e) The identity of the patient as being the person named in the written directive must be verified by more than one method before the administration of any therapeutic radiation;

(f) The final plans of treatment and any related calculations must be the same as those specified in the written directive;

(g) Each administration of a dose of therapeutic radiation must comply with the written directive; and

(h) Any unintended deviation from the written directive must be identified and evaluated, and appropriate action must be taken.

2. A registrant shall develop procedures for and conduct a review of the program, including, without limitation:

(a) An evaluation of a representative sample of administrations to patients within the review period through a procedure which must be submitted to the Division;

(b) An evaluation of all recordable events within the review period; and

(c) An evaluation of all medical events within the review period to verify that the actions taken comply with the program.

3. A review of the program must be conducted at least once every 12 months, and a record of each review must be maintained for inspection by the Division for at least 3 years. The record must include any evaluations and the findings of the reviews.

4. A registrant shall evaluate each review to determine the effectiveness of the program and shall make modifications as needed to meet the objectives of this section.

5. A registrant shall:

(a) Within 30 days after the discovery of a recordable event:

(1) Assemble the relevant facts, including, without limitation, the cause of the recordable event; and

(2) Identify any corrective action which is required to prevent a reoccurrence of the recordable event; and

(b) Retain a record of the facts and corrective action taken for at least 3 years.

6. A registrant shall maintain each written directive for at least 3 years.

7. A registrant may modify a program specified in subsection 1, so long as the effectiveness of the program is not decreased. Any such modification must be submitted to the Division within 30 days after the modification is made.

8. Each applicant for a new registration shall submit to the Division a written program specified in subsection 1 as part of the application for registration and shall carry out the program upon issuance of the registration.

9. A registrant shall keep records of each medical event until the termination of the registration.

Sec. 39. *1. A facility which uses an electronic brachytherapy system must develop and implement a program of quality assurance in compliance with the approval of the system by the United States Food and Drug Administration. The program must be used to minimize deviations from facility procedures and to document preventative measures taken before any serious injury of a patient or misadministration of a therapeutic dose occurred. The program must include, without limitation:*

(a) Treatment planning, chart and treatment field parameters;

(b) Patient simulation, verification of catheter placement and device exchange procedures;

(c) Dose calculation and review procedures; and

(d) Reviews of daily treatment records.

2. Any deviation from a prescribed treatment or from the program and operating procedures of the facility must be investigated and brought to the attention of the authorized user, authorized medical physicist and radiation safety officer.

3. A review of the program must be conducted at least every 3 months and must include all deviations from any prescribed treatment. A signed and dated record of each review detailing the evaluation and findings of the review must be kept and made available for inspection by the Division for at least 3 years.

Sec. 40. NAC 459.010 is hereby amended to read as follows:

459.010 As used in NAC 459.010 to 459.950, inclusive, ***and sections 2 to 39, inclusive, of this regulation,*** unless the context otherwise requires, the words and terms defined in NAC 459.012 to 459.116, inclusive, ***and sections 2 to 14, inclusive, of this regulation*** have the meanings ascribed to them in those sections.

Sec. 41. NAC 459.0192 is hereby amended to read as follows:

459.0192 "Appendix B" means Appendix B to 10 C.F.R. §§ 20.1001 to 20.2402, inclusive, as those provisions existed on October 13, ~~[1999.]~~ ***2007.***

Sec. 42. NAC 459.076 is hereby amended to read as follows:

459.076 "Radioactive material" means any solid, liquid or gaseous material which emits radiation spontaneously. ***The term includes by-product material.***

Sec. 43. NAC 459.180 is hereby amended to read as follows:

459.180 1. The provisions of NAC 459.180 to 459.313, inclusive, provide for the licensing of radioactive materials. No person may receive, possess, use, transfer, own or acquire radioactive material except as authorized in a specific or general license issued pursuant to NAC 459.180 to 459.313, inclusive, or as otherwise provided in those sections.

2. In addition to the requirements of NAC 459.180 to 459.313, inclusive, all licensees are subject to the requirements of NAC 459.010 to 459.142, inclusive, 459.320 to 459.374, inclusive, and 459.780 to 459.794, inclusive. Licensees engaged in industrial radiography are

subject to the requirements of NAC 459.737 , and licensees using radioactive materials in the healing arts are subject to the requirements of NAC ~~[459.3066,]~~ 459.3801 and 459.3805.

Sec. 44. NAC 459.188 is hereby amended to read as follows:

459.188 Exempt quantities are:

Radioactive material	Microcuries	Radioactive material	Microcuries
Antimony 122 (Sb 122)	100	Cadmium 115 (Cd 115)	100
Antimony 124 (Sb 124)	10	Calcium 45 (Ca 45)	10
Antimony 125 (Sb 125)	10	Calcium 47 (Ca 47)	10
Arsenic 73 (As 73)	100	Carbon 14 (C 14)	100
Arsenic 74 (As 74)	10	Cerium 141 (Ce 141)	100
Arsenic 76 (As 76)	10	Cerium 143 (Ce 143)	100
Arsenic 77 (As 77)	100	Cerium 144 (Ce 144)	1
Barium 131 (Ba 131)	10	Cesium 129 (Cs 129)	100
Barium 133 (Ba 133)	10	Cesium 131 (Cs 131)	1,000
Barium 140 (Ba 140)	10	Cesium 134m (Cs 134m)	100
Bismuth 210 (Bi 210)	1	Cesium 134 (Cs 134)	1
Bromine 82 (Br 82)	10	Cesium 135 (Cs 135)	10
Cadmium 109 (Cd 109)	10	Cesium 136 (Cs 136)	10
Cadmium 115m (Cd 115m)	10	Cesium 137 (Cs 137)	10

Radioactive material	Microcuries	Radioactive material	Microcuries
Chlorine 36 (Cl 36)	10	Gadolinium 153 (Gd 153)	10
Chlorine 38 (Cl 38)	10	Gadolinium 159 (Gd 159)	100
Chromium 51 (Cr 51)	1,000	Gallium 67 (Ga 67)	100
Cobalt 57 (Co 57)	100	Gallium 72 (Ga 72)	10
Cobalt 58m (Co 58m)	10	***Germanium 68 (Ge 68)***	***100***
Cobalt 58 (Co 58)	10	Germanium 71 (Ge 71)	100
Cobalt 60 (Co 60)	1	***Gold 195 (Au 195)***	***10***
Copper 64 (Cu 64)	100	Gold 198 (Au 198)	100
Dysprosium 165 (Dy 165)	10	Gold 199 (Au 199)	100
Dysprosium 166 (Dy 166)	100	Hafnium 181 (Hf 181)	10
Erbium 169 (Er 169)	100	Holmium 166 (Ho 166)	100
Erbium 171 (Er 171)	100	Hydrogen 3 (H 3)	1,000
Europium 152 (Eu 152)9.2h	100	Indium 111 (In 111)	100
Europium 152 (Eu 152)13 yr	1	Indium 113m (In 113m)	100
Europium 154 (Eu 154)	1	Indium 114m (In 114m)	10
Europium 155 (Eu 155)	10	Indium 115m (In 115m)	100
Fluorine 18 (F 18)	1,000	Indium 115 (In 115)	10

Radioactive material	Microcuries	Radioactive material	Microcuries
Iodine 123 (I 123)	100	Lutetium 177 (Lu 177)	100
Iodine 125 (I 125)	1	Manganese 52 (Mn 52)	10
Iodine 126 (I 126)	1	Manganese 54 (Mn 54)	10
Iodine 129 (I 129)	0.1	Manganese 56 (Mn 56)	10
Iodine 131 (I 131)	1	Mercury 197m (Hg 197m)	100
Iodine 132 (I 132)	10	Mercury 197 (Hg 197)	100
Iodine 133 (I 133)	1	Mercury 203 (Hg 203)	10
Iodine 134 (I 134)	10	Molybdenum 99 (Mo 99)	100
Iodine 135 (I 135)	10	Neodymium 147 (Nd 147)	100
Iridium 192 (Ir 192)	10	Neodymium 149 (Nd 149)	100
Iridium 194 (Ir 194)	100	Nickel 59 (Ni 59)	100
Iron 52 (Fe 52)	10	Nickel 63 (Ni 63)	10
Iron 55 (Fe 55)	100	Nickel 65 (Ni 65)	100
Iron 59 (Fe 59)	10	Niobium 93m (Nb 93m)	10
Krypton 85 (Kr 85)	100	Niobium 95 (Nb 95)	10
Krypton 87 (Kr 87)	10	Niobium 97 (Nb 97)	10
Lanthanum 140 (La 140)	10	Osmium 185 (Os 185)	10

Radioactive material	Microcuries	Radioactive material	Microcuries
Osmium 191m (Os 191m)	100	Promethium 149 (Pm 149)	10
Osmium 191 (Os 191)	100	Rhenium 186 (Re 186)	100
Osmium 193 (Os 193)	100	Rhenium 188 (Re 188)	100
Palladium 103 (Pd 103)	100	Rhodium 103m (Rh 103m)	100
Palladium 109 (Pd 109)	100	Rhodium 105 (Rh 105)	100
Phosphorus 32 (P 32)	10	Rubidium 81 (Rb 81)	10
Platinum 191 (Pt 191)	100	Rubidium 86 (Rb 86)	10
Platinum 193m (Pt 193m)	100	Rubidium 87 (Rb 87)	10
Platinum 193 (Pt 193)	100	Ruthenium 97 (Ru 97)	100
Platinum 197m (Pt 197m)	100	Ruthenium 103 (Ru 103)	10
Platinum 197 (Pt 197)	100	Ruthenium 105 (Ru 105)	10
Polonium 210 (Po 210)	0.1	Ruthenium 106 (Ru 106)	1
Potassium 42 (K 42)	10	Samarium 151 (Sm 151)	10
Potassium 43 (K 43)	10	Samarium 153 (Sm 153)	100
Praseodymium 142 (Pr 142)	100	Scandium 46 (Sc 46)	10
Praseodymium 143 (Pr 143)	100	Scandium 47 (Sc 47)	100
Promethium 147 (Pm 147)	10	Scandium 48 (Sc 48)	10

Radioactive material	Microcuries	Radioactive material	Microcuries
Selenium 75 (Se 75)	10	Technetium 99m (Tc 99m)	100
Silicon 31 (Si 31)	100	Technetium 99 (Tc 99)	10
Silver 105 (Ag 105)	10	Tellurium 125m (Te 125m)	10
Silver 110m (Ag 110m)	1	Tellurium 127m (Te 127m)	10
Silver 111 (Ag 111)	100	Tellurium 127 (Te 127)	100
Sodium 22 (Na 22)	10	Tellurium 129m (Te 129m)	10
Sodium 24 (Na 24)	10	Tellurium 129 (Te 129)	100
Strontium 85 (Sr 85)	10	Tellurium 131m (Te 131m)	10
Strontium 89 (Sr 89)	1	Tellurium 132 (Te 132)	10
Strontium 90 (Sr 90)	0.1	Terbium 160 (Tb 160)	10
Strontium 91 (Sr 91)	10	Thallium 200 (Tl 200)	100
Strontium 92 (Sr 92)	10	Thallium 201 (Tl 201)	100
Sulphur 35 (S 35)	100	Thallium 202 (Tl 202)	100
Tantalum 182 (Ta 182)	10	Thallium 204 (Tl 204)	10
Technetium 96 (Tc 96)	10	Thulium 170 (Tm 170)	10
Technetium 97m (Tc 97m)	100	Thulium 171 (Tm 171)	10
Technetium 97 (Tc 97)	100	Tin 113 (Sn 113)	10

Radioactive material	Microcuries
Tin 125 (Sn 125)	10
Tungsten 181 (W 181)	10
Tungsten 185 (W 185)	10
Tungsten 187 (W 187)	100
Vanadium 48 (V 48)	10
Xenon 131m (Xe 131m)	1,000
Xenon 133 (Xe 133)	100
Xenon 135 (Xe 135)	100
Ytterbium 175 (Yb 175)	100
Yttrium 87 (Y 87)	10
Yttrium 88 (Y 88)	***10***
Yttrium 90 (Y 90)	10
Yttrium 91 (Y 91)	10
Yttrium 92 (Y 92)	100
Yttrium 93 (Y 93)	100
Zinc 65 (Zn 65)	10
Zinc 69m (Zn 69m)	100
Zinc 69 (Zn 69)	1,000
Zirconium 93 (Zr 93)	10
Zirconium 95 (Zr 95)	10
Zirconium 97 (Zr 97)	10
Any radioactive material not listed above other than alpha emitting radioactive material ~~[.]~~	***0.01***

Sec. 45. NAC 459.190 is hereby amended to read as follows:

459.190 1. Except for persons who apply radioactive material to, or persons who incorporate radioactive material into, the following products, any person is exempt from NAC 459.010 to 459.950, inclusive, ***and sections 2 to 39, inclusive, of this regulation,*** to the extent that he receives, possesses, uses, transfers, owns or acquires the following products:

(a) Timepieces, hands or dials containing not more than the following specified quantities of radioactive material and not exceeding the following specified levels of radiation:

(1) Twenty-five millicuries (925 megabecquerels) of tritium per timepiece.

(2) Five millicuries (185 megabecquerels) of tritium per hand.

(3) Fifteen millicuries (555 megabecquerels) of tritium per dial. If bezels are used, they are considered part of the dial.

(4) One hundred microcuries (3.7 megabecquerels) of promethium 147 per watch or 200 microcuries (7.4 megabecquerels) of promethium 147 per other timepiece.

(5) Twenty microcuries (740 kilobecquerels) of promethium 147 per watch hand or 40 microcuries (1.48 megabecquerels) of promethium 147 per other timepiece hand.

(6) Sixty microcuries (2.22 megabecquerels) of promethium 147 per watch dial or 120 microcuries (4.44 megabecquerels) of promethium 147 per other timepiece dial. If bezels are used, they are considered part of the dial.

(7) ~~[Fifteen-hundredths microcurie (5.55 kilobecquerels) of radium per timepiece.~~

~~(8) Three-hundredths microcurie (1.11 kilobecquerels) of radium per hand.~~

~~(9) Nine-hundredths microcurie (3.33 kilobecquerels) of radium per dial. If bezels are used, they are considered part of the dial.~~

~~(10)]~~ Notwithstanding these quantities, the levels of radiation from hands and dials containing promethium 147 or radium 226 must not exceed, when measured through 50 milligrams per square centimeter of absorber:

(I) For wrist watches, 0.1 millirad (1 microgray) per hour at 10 centimeters from any surface;

(II) For pocket watches, 0.1 millirad (1 microgray) per hour at 1 centimeter from any surface, also radium must not be used for pocket watches; and

(III) For any other timepiece, 0.2 millirad (2 micrograys) per hour at 10 centimeters from any surface.

~~[(11)]~~ ***(8)*** One microcurie (37 kilobecquerels) of radium 226 per timepiece in timepieces acquired before February 28, 1980.

(b) Lock illuminators containing not more than 15 millicuries (555 megabecquerels) of tritium or not more than 2 millicuries (74 megabecquerels) of promethium 147 installed in automobile locks. The levels of radiation from each lock illuminator containing promethium 147 must not exceed 1 millirad (10 micrograys) per hour at 1 centimeter from any surface when measured through 50 milligrams per square centimeter of absorber.

(c) Precision balances containing ~~[no]~~ ***not*** more than 1 millicurie (37 megabecquerels) of tritium per balance or 0.5 millicurie (18.5 megabecquerels) of tritium per balance part ~~[.]~~ ***which were manufactured before the effective date of this regulation.***

(d) Automobile shift quadrants containing not more than 25 millicuries (925 megabecquerels) of tritium.

(e) Marine compasses containing not more than 750 millicuries (27.75 gigabecquerels) of tritium gas and other marine navigational instruments containing not more than 250 millicuries (9.25 gigabecquerels) of tritium gas ~~.~~ ***which were manufactured before the effective date of this regulation.***

(f) ***Ionization chamber smoke detectors containing not more than 1 microcurie (µCi) of americium-241 per detector in the form of a foil and designed to protect life and property from fire.***

(g) Thermostat dials and pointers containing not more than 25 millicuries (925 megabecquerels) of tritium per thermostat.

~~(g)~~ ***(h)*** Electron tubes, if each tube does not contain more than one of the following specified quantities of radioactive material:

(1) One hundred fifty millicuries (5.55 gigabecquerels) of tritium per microwave receiver protector tube or 10 millicuries (370 megabecquerels) of tritium per any other electron tube;

(2) One microcurie (37 kilobecquerels) of cobalt 60;

(3) Five microcuries (185 kilobecquerels) of nickel 63;

(4) Thirty microcuries (1.11 megabecquerels) of krypton 85;

(5) Five microcuries (185 kilobecquerels) of cesium 137;

(6) Thirty microcuries (1.11 megabecquerels) of promethium 147; or

(7) One microcurie (37 kilobecquerels) of radium 226,

➥ and if the levels of radiation from each electron tube containing radioactive material do not exceed 1 millirad (10 micrograys) per hour at 1 centimeter from any surface when measured through 7 milligrams per square centimeter of absorber.

~~[(h)]~~ ***(i)*** Ionizing radiation measuring instruments containing, for purposes of internal calibration or standardization, a source of radioactive material ~~[not exceeding]~~ ***which:***

(1) Does not exceed the applicable quantity in NAC 459.188 ~~[.]~~ ***; and***

(2) Contains not more than 10 exempt quantities.

2. For the purposes of NAC 459.180 to 459.313, inclusive, authority to transfer possession or control by the manufacturer, processor or producer of any equipment, device, commodity or other product containing source material or by-product material whose subsequent possession, use, transfer and disposal by all other persons are exempted from regulatory requirements may be obtained only from the Nuclear Regulatory Commission.

3. For the purposes of paragraph ~~[(g)]~~ ***(h)*** of subsection 1, electron tubes include spark gap tubes, power tubes, gas tubes including glow lamps, receiving tubes, microwave tubes, indicator tubes, pick-up tubes, radiation detection tubes and any other completely sealed tube that is designed to conduct or control electrical currents.

4. For the purposes of paragraph (i) of subsection 1:

(a) The source of an instrument may contain either one type or different types of radionuclides;

(b) An individual exempt quantity may be composed of fractional parts of one or more of the exempt quantities specified in NAC 459.188; and

(c) Five hundredths of a microcurie of americium-241 is considered an exempt quantity pursuant to NAC 459.188.

Sec. 46. NAC 459.192 is hereby amended to read as follows:

459.192 1. Except for persons who manufacture, process or produce self-luminous products containing tritium, krypton 85 or promethium 147, any person is exempt from the provisions of NAC 459.010 to 459.950, inclusive, ***and sections 2 to 39, inclusive, of this regulation*** to the extent that he receives, possesses, uses, transfers, owns or acquires tritium, krypton 85 or promethium 147 in self-luminous products manufactured, processed, produced, imported or transferred in accordance with a specific license issued by the Nuclear Regulatory Commission pursuant to 10 C.F.R. § 32.22 which license authorizes the transfer of the product to persons who are exempt from regulatory requirements. The exemption in this subsection for self-luminous products does not apply to tritium, krypton 85 or promethium 147 used in products for frivolous purposes or in toys or adornments.

2. Any person is exempt from the provisions of NAC 459.010 to 459.950, inclusive, ***and sections 2 to 39, inclusive, of this regulation*** to the extent that he receives, possesses, uses, transfers or owns articles containing less than 0.1 microcurie (3.7 kilobequerels) of radium 226 which were acquired before February 28, 1980.

3. Except for persons who manufacture, process ***,*** ~~[or]~~ produce ***or initially transfer for sale or distribution*** gas and aerosol detectors containing radioactive material, any person is exempt from the provisions of NAC 459.010 to 459.950, inclusive, ***and sections 2 to 39, inclusive, of this regulation*** to the extent that he receives, possesses, uses, transfers, owns or acquires radioactive material in gas and aerosol detectors designed to protect life or property from fires and airborne hazards if the detectors containing radioactive material have been manufactured, ~~[imported or]~~ ***processed, produced or initially*** transferred in accordance with a specific license issued by the Division, the Nuclear Regulatory Commission or any other agreement state

pursuant to 10 C.F.R. § 32.26 or its equivalent, which authorizes the transfer of the detectors to persons who are exempt from regulatory requirements. The following also apply to gas and aerosol detectors containing radioactive material:

(a) The provisions of subsection 2 of NAC 459.190 apply to this subsection.

(b) Any gas and aerosol detector which contains by-product material, or naturally occurring and accelerator-produced radioactive material, and which was previously manufactured and distributed to general licensees in accordance with a specific license issued by an agreement state ***, pursuant to provisions comparable to 10 C.F.R. § 32.26,*** is exempt under this subsection if the device is labeled in accordance with the specific license and if the device meets the requirements of NAC 459.280.

4. Any person who receives, possesses, uses, transfers, owns or acquires capsules that contain carbon-14 urea is exempt from the provisions of NAC 459.180 to 459.313, inclusive, if each capsule:

(a) Is intended solely for in vivo diagnostic use in humans and is not used for research involving human subjects; and

(b) Contains, allowing for nominal variation that may occur during the manufacturing process, not more than 1 microcurie (37 kilobecquerels) of carbon-14 urea.

➥ ~~[Nothing in]~~ ***The provisions of*** this subsection ~~[relieves]~~ ***do not relieve*** a person from complying with any other federal, state or local requirement governing the receipt, administration or use of drugs.

5. Any person who receives, possesses, uses, transfers, owns or acquires synthetic plastic resins containing scandium-46 which are designed for sand consolidation in oil wells is exempt

from the provisions of NAC 459.010 to 459.950, inclusive, ***and sections 2 to 39, inclusive, of this regulation,*** if the resins have been manufactured or imported in accordance with a specific license issued by the Nuclear Regulatory Commission or have been manufactured in accordance with the specifications contained in a specific license issued by the Division or any agreement state to the manufacturer of resins pursuant to licensing requirements equivalent to those in 10 C.F.R. §§ ***32.14 and*** 32.16 ~~[and 32.17]~~ of the regulations of the Nuclear Regulatory Commission. This exemption does not authorize the manufacture of any resins containing scandium-46.

Sec. 47. NAC 459.1951 is hereby amended to read as follows:

459.1951 The following table sets forth quantities of radioisotopes for the purposes of subsections 1 and 2 of NAC 459.195.

Radioactive material	Release fraction	Quantity (curies)
Actinium-228	0.001	4,000
Americium-241	.001	2
Americium-242	.001	2
Americium-243	.001	2
Antimony-124	.01	4,000
Antimony-126	.01	6,000
Barium-133	.01	10,000
Barium-140	.01	30,000
Bismuth-207	.01	5,000
Bismuth-210	.01	600
Cadmium-109	.01	1,000
Cadmium-113	.01	80
Calcium-45	.01	20,000
Californium-252	.001	9(20mg)
Carbon-14	.01 Non CO	50,000
Cerium-141	.01	10,000
Cerium-144	.01	300
Cesium-134	.01	2,000
Cesium-137	.01	3,000
Chlorine-36	.5	100
Chromium-51	.01	300,000
Cobalt-60	.001	5,000
Copper-64	.01	200,000
Curium-242	.001	60
Curium-243	.001	3
Curium-244	.001	4
Curium-245	.001	2
Europium-152	.01	500
Europium-154	.01	400
Europium-155	.01	3,000
Germanium-68	.01	2,000
Gadolinium-153	.01	5,000
Gold-198	.01	30,000
Hafnium-172	.01	400
Hafnium-181	.01	7,000
Holmium-166m	.01	100
Hydrogen-3	.5	20,000
Iodine-125	.5	10
Iodine-131	.5	10
Indium-114m	.01	1,000
Iridium-192	.001	40,000
Iron-55	.01	40,000
Iron-59	.01	7,000
Krypton-85	1.0	6,000,000
Lead-210	.01	8
Manganese-56	.01	60,000
Mercury-203	.01	10,000
Molybdenum-99	.01	30,000
Neptunium-237	.001	2

Radioactive material	Release fraction	Quantity (curies)
Nickel-63	.01	20,000
Niobium-94	.01	300
Phosphorus-32	.5	100
Phosphorus-33	.5	1,000
Polonium-210	.01	10
Potassium-42	.01	9,000
Promethium-145	.01	4,000
Promethium-147	.01	4,000
Radium-226	***.001***	***100***
Ruthenium-106	.01	200
Samarium-151	.01	4,000
Scandium-46	.01	3,000
Selenium-75	.01	10,000
Silver-110m	.01	1,000
Sodium-22	.01	9,000
Sodium-24	.01	10,000
Strontium-89	.01	3,000
Strontium-90	.01	90
Sulfur-35	.5	900
Technetium-99	.01	10,000
Technetium-99m	.01	400,000
Tellurium-127m	.01	5,000
Tellurium-129m	.01	5,000
Terbium-160	.01	4,000
Thulium-170	.01	4,000
Tin-113	.01	10,000
Tin-123	.01	3,000
Tin-126	.01	1,000
Titanium-44	.01	100
Vanadium-48	.01	7,000
Xenon-133	1.00	900,000
Yttrium-91	.01	2,000
Zinc-65	.01	5,000
Zirconium-93	.01	400
Zirconium-95	.01	5,000
Any other beta-gamma emitter	.01	10,000
Mixed fission products	.01	1,000
Mixed corrosion products	.01	10,000
Contaminated equipment beta-gamma	.001	10,000
Irradiated material, any form other than solid noncombustible	.01	1,000
Irradiated material, solid noncombustible	.001	10,000
Mixed radioactive waste, beta-gamma	.01	1,000
Packaged mixed waste, beta-gamma	.001	10,000
Any other alpha emitter	.001	2
Contaminated equipment, alpha	.0001	20
Packaged waste, alpha	.0001	20

Sec. 48. NAC 459.198 is hereby amended to read as follows:

459.198 1. Each license issued pursuant to NAC 459.180 to 459.950, inclusive, ***and sections 15 to 39, inclusive, of this regulation*** is subject to all the provisions of chapter 459 of NRS, now or hereafter in effect, and to all regulations and orders of the Division.

2. No license issued or granted under NAC 459.180 to 459.950, inclusive, ***and sections 15 to 39, inclusive, of this regulation*** or right to possess or utilize radioactive material granted by any license issued pursuant to those provisions, may be transferred, assigned or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of any license to any person unless the Division, after securing full information ***,*** finds that the transfer is in accordance with the provisions of chapter 459 of NRS and gives its consent in writing.

3. Each person licensed by the Division pursuant to NAC 459.180 to 459.950, inclusive, ***and sections 15 to 39, inclusive, of this regulation*** or each person seeking a license, shall:

(a) Confine his use and possession of the material licensed to the locations and purposes authorized in the license.

(b) Inform the Division in writing before the sale or lease of his business if the transaction involves the transfer of a source of radiation to another person.

(c) Inform the Division, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under Title 11 of the United States Code or the appropriate chapter of NRS by or against:

(1) The licensee;

(2) An entity, as that term is defined in 11 U.S.C. § 101(15), which controls the licensee or which lists the licensee as a property of the estate of the entity; or

(3) An affiliate, as that term is defined in 11 U.S.C. § 101(2), of the licensee.

(d) Keep records of information important to the safe and effective decommissioning of the facility where the radioactive material is located in a location identified to the Division until the license is terminated by the Division. If records of information relevant to decommissioning are kept for other purposes, references to ~~[these]~~ ***those*** records and their locations may be used. Such information must include:

(1) Records of spills or other unusual occurrences involving the spread of contamination in or around the facility, the equipment of the facility or the site of the facility. ~~[These]~~ ***The*** records may be limited to instances when contamination remains after any cleanup procedures or when there is a reasonable likelihood that contaminants may have spread to inaccessible areas **,** including possible seepage into porous materials such as concrete. ~~[These]~~ ***The*** records must include any information known to the licensee on the identification of nuclides, quantities, forms and concentrations involved.

(2) Any available drawings of structures and equipment of the facility, as originally built and as modified, which are located in restricted areas where radioactive materials are used or stored, and of locations of inaccessible areas to which contaminants may spread such as buried pipes which may be subject to contamination. If drawings are not available, the licensee shall provide to the Division other appropriate records of information concerning these areas.

(3) Records of any performance of an estimate of the costs of decommissioning for incorporation in a plan for financing the decommissioning and any records of the method used for assuring the availability of money for the costs of decommissioning the facility.

4. Each person licensed by the Division pursuant to NAC 459.180 to 459.950, inclusive, who uses a portable gauge shall use a minimum of two independent physical controls that form tangible barriers to secure the portable gauge from unauthorized removal when the portable gauge is not under the control and constant surveillance of the licensee.

5. Each person licensed by the Division pursuant to NAC 459.180 to 459.950, inclusive, and sections 15 to 39, inclusive, of this regulation who prepares technetium-99m radiopharmaceuticals from generators for molybdenum-99 or technetium-99m or who prepares rubidium-82 from generators for strontium-82 or rubidium-82 shall:

(a) Test the generator eulates for breakthrough of molybdenum-99 or contamination by strontium-82 and strontium-85, respectively, pursuant to 10 C.F.R. § 35.204; and

(b) Record the results of each test and retain each record for at least 3 years.

6. Each licensee authorized pursuant to NAC 459.236 to produce radioactive drugs for positron emission tomography for noncommercial distribution to medical use licensees in its consortium shall:

(a) Satisfy the labeling requirements in paragraph (d) of subsection 1 of NAC 459.300 for each radioactive drug, transport radiation shield and each syringe, vial or other container used to hold such a radioactive drug;

(b) Possess and use instrumentation to measure the radioactivity of such a radioactive drug and meet the procedures, radioactivity measurement, instrument test, instrument check and instrument adjustment requirements pursuant to subsection 3 of NAC 459.300;

(c) If the licensee is a pharmacy, ensure that any person who prepares radioactive drugs for positron emission tomography:

(1) Is an authorized nuclear pharmacist who meets the requirements of paragraph (b) of subsection 2 of NAC 459.300; or

(2) Is under the supervision of an authorized nuclear pharmacist pursuant to 10 C.F.R. § 35.27; and

(d) If the licensee is a pharmacy and allows a person to work as an authorized nuclear pharmacist, meet the requirements of paragraph (d) of subsection 2 of NAC 459.300.

➥ Any authorization obtained pursuant to NAC 459.236 to produce radioactive drugs for positron emission tomography for noncommercial distribution to medical use licensees in a consortium does not relieve the licensee from the requirement to comply with any applicable federal or state law or regulation governing radioactive drugs.

Sec. 49. NAC 459.216 is hereby amended to read as follows:

459.216 1. A general license is issued to commercial and industrial firms, to research, educational and medical institutions, to a person engaged in the conduct of his own business, and to the state and local governments, including the agencies of either, to own, receive, acquire, possess, use or transfer, in accordance with the provisions of subsections 2 and 3 and NAC 459.218, radioactive material, excluding special nuclear material, contained in devices designed and manufactured for the purpose of detecting, measuring, gauging or controlling thickness,

density, level, interface location, radiation, leakage or qualitative or quantitative chemical composition or for producing light or an ionized atmosphere.

2. The general license in subsection 1 applies only to radioactive material contained in devices which have been manufactured or initially transferred and labeled in accordance with the specifications contained in a specific license issued by the Division pursuant to NAC 459.282, or in accordance with the specifications contained in a specific license issued by the Nuclear Regulatory Commission or an agreement state.

3. A general licensee may receive a device described in this section only from a specific licensee described in subsection 2 or through a transfer made pursuant to subsection 8 of NAC 459.218 and 459.2185.

4. The general license provided in subsection 1 is subject to the provisions of NAC 459.124 to 459.134, inclusive, 459.198, 459.208, 459.2185, 459.219, 459.287, 459.289, 459.2895, 459.3062 **,** ~~[to 459.3068, inclusive,]~~ 459.3075, 459.312 and 459.313.

Sec. 50. NAC 459.218 is hereby amended to read as follows:

459.218 Any person who owns, receives, acquires, possesses, uses or transfers radioactive material in a device pursuant to the general license ***specified*** in subsection 1 of NAC 459.216:

1. Shall ensure that all labels affixed to the device at the time of receipt, and bearing a statement that removal of the label is prohibited, are maintained thereon and comply with all instructions and precautions provided by the labels.

2. Shall ensure that the device is tested for leakage of radioactive material and proper operation of the on-and-off mechanism and indicator, if any, and that such tests are conducted at

no longer than 6-month intervals or at such other intervals as are specified in the label, except that:

(a) Devices containing only krypton need not be tested for leakage of radioactive material; and

(b) Devices containing only tritium or not more than 100 microcuries of other beta- or gamma-emitting material, or both, or 10 microcuries of alpha-emitting material and devices held in storage in the original shipping container before initial installation need not be tested for any purpose.

3. Shall ensure that the tests required by subsection 2 and other testing, installation, servicing and removal from installation, involving the radioactive materials, its shielding or containment, are performed and recorded:

(a) In accordance with the instructions provided by the labels; or

(b) By a person holding an applicable specific license from the Division, the Nuclear Regulatory Commission or an agreement state to perform such activities.

4. Shall maintain records showing compliance with the requirements of subsections 2 and 3. The records must show the results of tests. The records also must show the dates of performance of, and the names of persons performing, testing, installing, servicing and removal from installation concerning the radioactive material, its shielding or containment. Records of tests for leakage of radioactive material required by subsection 2 must be maintained until the sealed source is transferred or disposed of. Records of tests of the on-and-off mechanism and indicator required by subsection 2 must be maintained for 1 year after the next required test of the on-and-off mechanism and indicator is performed or until the sealed source is transferred or disposed of.

Records which are required by subsection 3 must be maintained for a period of 2 years from the date of the recorded event or until the device is transferred or disposed of.

5. Upon the occurrence of a failure of or damage to, or any indication of a possible failure of or damage to, the shielding of the radioactive material or the on-and-off mechanism or indicator, or upon the detection of 0.005 microcurie (185 becquerel) or more of removable radioactive material:

(a) Shall immediately inform the Radiological Health Section of the Division by telephone;

(b) Shall immediately suspend operation of the device;

(c) Shall, within 30 days, furnish to the Division a report containing a brief description of the event and the remedial action taken;

(d) Shall, in a case of detection of 0.005 microcurie (185 becquerel) or more of radioactive material or failure of or damage to a source likely to result in contamination of the premises or the environs, furnish to the Division a plan for ensuring that the premises and environs are acceptable for unrestricted use; and

(e) Shall not, in a case of detection of 0.005 microcurie (185 becquerel) or more of radioactive material or failure of or damage to a source likely to result in contamination of the premises and the environs, operate the device until it has been repaired by the manufacturer or other person holding a specific license to repair the device issued pursuant to 10 C.F.R. Parts 30 and 32 or equivalent regulations of an agreement state.

6. Shall not abandon the device containing radioactive material.

7. Except as otherwise provided in subsection 8, may transfer or dispose of the device containing radioactive material only by transfer to a specific licensee of the Division, the Nuclear

Regulatory Commission or an agreement state whose specific license authorizes him to receive the device or whose license authorizes waste collection. Within 30 days after transfer of a device to a specific licensee, the person shall furnish to the Division a report containing identification of the device by the manufacturer's or initial transferor's name, the model number and serial number of the device transferred, the name, address and license number of the person receiving the device and the date of the transfer. A transferor shall not transfer the device to any specific licensee not described in this subsection without first obtaining approval of the transfer from the Division.

8. May transfer the device to another general licensee only:

(a) Where the device remains in use at a particular location. In such a case the transferor shall give the transferee a copy of NAC 459.010 to 459.794, inclusive, and ***sections 2 to 39, inclusive, of this regulation and*** any safety documents identified in the label on the device and **,** within 30 days after the transfer **,** shall report to the Division the manufacturer's or initial transferor's name, the model number and serial number of the device transferred, the name, title, telephone number and address of the transferee, and the name and position of a person who may constitute a point of contact between the Division and the transferee and who has knowledge of **,** and authority to take actions to ensure compliance with **,** the appropriate regulations and requirements; or

(b) Where the device is held in storage by an intermediate person in the original shipping container at its intended location of use before initial use by a general licensee.

9. Shall comply with the provisions of NAC 459.369 and 459.3695 for reporting radiation incidents, theft or loss of licensed material, but is exempt from the other requirements of NAC 459.320 to 459.374, inclusive, and 459.780 to 459.794, inclusive.

10. Except as otherwise provided in this subsection, shall respond to written requests from the Division to provide information relating to the general license within 30 calendar days after the date of the request or within the time specified in the request. If the general licensee cannot provide the requested information within the allotted time, the licensee shall, within the allotted time, request in writing additional time to comply with the request from the Division pursuant to the provisions of NAC 459.134.

11. Shall appoint a person responsible for having knowledge of the appropriate regulations and requirements and the authority for taking required actions to comply with those regulations and requirements. The general licensee, through the person appointed pursuant to this subsection, shall ensure daily compliance with all applicable regulations and requirements. The provisions of this subsection do not relieve the licensee of any responsibility or obligation under this chapter or chapter 459 of NRS.

12. Except for a person who holds a general license issued by the Nuclear Regulatory Commission or an agreement state and who uses a device described in paragraph (a) in areas subject to the jurisdiction of the Division for a period of less than 180 days in any calendar year, ***pursuant to the provisions of NAC 459.210,*** shall:

(a) Register any device which contains:

(1) Ten millicuries (370 megabecquerels) or more of cesium-137;

(2) One-tenth ~~[millicuries]~~ ***of a millicurie*** (3.7 megabecquerels) or more of strontium-90;

(3) One millicurie (37 megabecquerels) or more of cobalt-60;

(4) ***One-tenth of a millicurie (3.7 megabecquerels) or more of radium-226;***

(5) One millicurie (37 megabecquerels) or more of americium-241; or

~~[(5)]~~ ***(6)*** One millicurie (37 megabecquerels) or more of any other transuranic element, that is, an element with an atomic number greater than uranium-92,

➥ based on the activity indicated on the label. The general licensee shall register the device annually with the Division and shall pay the appropriate fee. In registering the device, the person shall verify, correct and, as appropriate, add to the information provided in a request from the Division for registration. The registration information must be submitted to the Division within 30 days after the date of the request for registration made by the Division, unless otherwise indicated in the request.

(b) In complying with the registration requirements of paragraph (a), in addition to any other information specifically requested by the Division, provide, without limitation, the following information:

(1) The name and mailing address of the general licensee;

(2) The name of the manufacturer or initial transferor of each device;

(3) The model number, serial number, radioisotope and activity, as indicated on the label, of each device;

(4) The name, title and telephone number of the responsible person designated as a representative of the general licensee pursuant to subsection 11;

(5) The address of the physical location at which each device is used and stored or, in the case of a portable device, the address of the primary place of storage;

(6) A certification by the responsible person designated as the representative of the general licensee pursuant to subsection 11 that the information provided in the registration has been verified through a physical inventory and check of label information; and

(7) A certification by the responsible person designated as the representative of the general licensee pursuant to subsection 11 that the responsible person is aware of the requirements of the general license.

13. Shall report to the Division any change to the mailing address for a location of use, including any change in the name of the general licensee, within 30 days after the effective date of the change. For a portable device, the general licensee is required to report only a change in the address of the primary place of storage of the portable device.

14. Shall not hold a device that is not in use for more than 2 years, except that a device that is kept in standby for future use is excluded from the 2-year time limit if the general licensee performs physical inventories of those devices held in standby on a quarterly basis. If a device with shutters is not being used, the shutters must be locked in the closed position. If a device is put back into service or is transferred to another person and was not tested during the required test interval, the device must be tested for leakage before use or transfer and the shutter must be tested before use. The Division may determine the eligibility for release for unrestricted use of such a device in accordance with the provisions of NAC 459.3178.

Sec. 51. NAC 459.224 is hereby amended to read as follows:

459.224 1. A general license is hereby issued to those persons listed to own, receive, acquire, possess, use and transfer, in accordance with the provisions of subsections 4 and 5, americium 241 in the form of calibration or reference sources:

(a) Any person who holds a specific license issued by the Division which authorizes him to receive, possess, use and transfer radioactive material; and

(b) Any person who holds a specific license issued by the Nuclear Regulatory Commission which authorizes him to receive, possess, use and transfer special nuclear material.

2. A general license is hereby issued to own, receive, possess, use and transfer plutonium in the form of calibration or reference sources in accordance with the provisions of subsections 4 and 5 to any person who holds a specific license issued by the Division which authorizes him to receive, possess, use and transfer radioactive material.

3. A general license is hereby issued to own, receive, possess, use and transfer radium 226 in the form of calibration or reference sources in accordance with the provisions of subsections 4 and 5 to any person who holds a specific license issued by the Division which authorizes him to receive, possess, use and transfer radioactive material.

4. The general licenses in paragraphs (a), (b) and (d) of subsection 5 apply only to calibration or reference sources which have been manufactured ***or initially transferred*** in accordance with the specifications contained in a specific license issued to the manufacturer or importer of the sources by the Nuclear Regulatory Commission pursuant to 10 C.F.R. § 32.57 or ~~[10 C.F.R.]~~ § 70.39 or which have been manufactured in accordance with specifications contained in a specific license issued to the manufacturer by the Division or any agreement state pursuant to licensing requirements equivalent to those contained in 10 C.F.R. § 32.57 or ~~[10 C.F.R.]~~ § 70.39 of the regulations of the Nuclear Regulatory Commission.

5. The general licenses provided in subsections 1, 2 and 3 are subject to the provisions of NAC 459.124 to 459.134, inclusive, 459.198, 459.208, 459.312, 459.320 to 459.374, inclusive,

and 459.780 to 459.794, inclusive. In addition, persons who own, receive, acquire, possess, use or transfer one or more calibration or reference sources pursuant to NAC 459.180 to 459.313, inclusive:

(a) Shall not possess at any one time or at any one location of storage or use more than 5 microcuries of americium 241, 5 microcuries of plutonium and 5 microcuries of radium 226 in those sources;

(b) Shall not receive, possess, use or transfer such a source unless the source or its storage container bears a label which includes the following statement or a substantially similar statement:

The receipt, possession, use and transfer of this source, Model ....., Serial No. ....., are subject to a general license and the regulations of the Nuclear Regulatory Commission or of a state with which the Commission has entered into an agreement for the exercise of regulatory authority. Do not remove this label.

CAUTION - RADIOACTIVE MATERIAL - THIS SOURCE CONTAINS (AMERICIUM 241) (PLUTONIUM) (RADIUM 226). DO NOT TOUCH RADIOACTIVE PORTION OF THIS SOURCE.

.....

Name of manufacturer or importer

(c) Shall ensure that the label required by paragraph (b) shows only the name of the appropriate material;

(d) Shall not transfer, abandon or dispose of such source except by transfer to a person authorized by a license from the Division, the Nuclear Regulatory Commission or an agreement state to receive the source;

(e) Shall store such source, except when the source is being used, in a closed container adequately designed and constructed to contain americium 241, plutonium or radium 226 which might otherwise escape during storage; and

(f) Shall not use such source for any purpose other than the calibration of radiation detectors or the standardization of other sources.

6. These general licenses do not authorize the manufacture of calibration or reference sources containing americium 241, plutonium or radium 226.

Sec. 52. NAC 459.236 is hereby amended to read as follows:

459.236 1. Applications for specific licenses must be filed on a form prescribed by the Division and accompanied by the appropriate fee as prescribed in NAC 459.310.

2. The Division may at any time after the filing of the original application, and before the expiration of the license, require further statements in order to enable the Division to determine whether the application should be granted or denied or whether a license should be modified or revoked.

3. Each application must be signed by the applicant or licensee or a person duly authorized to act for and on his behalf.

4. An application for a license may include a request for a license authorizing one or more activities.

5. In his application, the applicant may incorporate by reference information contained in previous applications, statements or reports filed with the Division provided such references are clear and specific.

6. Applications and documents submitted to the Division may be made available for public inspection except that the Division may withhold any document or part thereof from public inspection if disclosure of its content is not required in the public interest and would adversely affect the interest of a person concerned.

7. An application for a specific license to use radioactive material in the form of a sealed source or in a device that contains a sealed source must:

(a) Identify the source or device by manufacturer and model number as registered with the Nuclear Regulatory Commission ***, or for a source or device which contains radium-226 or accelerator-produced radioactive material,*** pursuant to the provisions of NAC 459.289 ***,*** ~~[or]~~ 459.2895 ***or 459.3075*** or 10 C.F.R. § 32.210 or registered with an agreement state pursuant to an equivalent regulation of the agreement state; ~~[or]~~

(b) Contain the information identified in NAC 459.289 ***,*** ~~[or]~~ 459.2895 ~~[,]~~ ***or 459.3075 or*** 10 C.F.R. § 32.210 or an equivalent regulation of an agreement state ~~[.]~~ ***; or***

(c) For a source or device which contains naturally occurring or accelerator-produced radioactive material which was manufactured before the effective date of this regulation, which is not registered with the Nuclear Regulatory Commission pursuant to NAC 459.3075, 10 C.F.R. § 32.210 or an agreement state pursuant to an equivalent regulation of the

agreement state, and for which the applicant cannot provide all the information specified in 10 C.F.R. § 32.210(c):

(1) Include all available information identified in 10 C.F.R. § 32.210(c) which concerns the source and, if applicable, the device; and

(2) Include sufficient additional information to demonstrate with reasonable assurance that the radiation safety properties of the source or device are adequate to protect health and minimize danger to life and property, including, without limitation, a description of the source or device, a description of the radiation safety features, the intended use and associated operating experience of the licensee and the results of a recent leak test of the source or device.

8. If applicable pursuant to NAC 459.1955, an application for a specific license must contain a proposed plan for financing decommissioning or a certification of financial assurance for decommissioning.

9. An application from a medical facility or educational institution to produce radioactive drugs for positron emission tomography for noncommercial distribution to its licensees in its consortium authorized for use pursuant to the provisions of 10 C.F.R. Part 35 or an equivalent regulation of an agreement state must include:

(a) A request for authorization for the production of positron emission tomography radionuclides or evidence of an existing license for a production facility for positron emission tomography radionuclides within its consortium, which is issued pursuant to NAC 459.180 to 459.313, inclusive, or an equivalent regulation in an agreement state; and

(b) Evidence that the applicant is qualified to produce radioactive drugs for medical use pursuant to NAC 459.300 or 10 C.F.R. § 32.72(a)(2).

Sec. 53. NAC 459.274 is hereby amended to read as follows:

459.274 Specific licenses of broad scope are subject to the following conditions:

1. Unless specifically authorized, persons licensed pursuant to NAC 459.262 may not:

(a) Conduct tracer studies in the environment involving direct release of radioactive material;

(b) Receive, acquire, own, possess, use or transfer devices containing 100,000 curies or more of radioactive material in sealed sources used for irradiation of materials;

(c) Conduct activities for which a specific license issued by the Division under NAC ~~[459.2434, 459.2565 and]~~ 459.276 to 459.307, inclusive, is required; or

(d) Add or cause the addition of radioactive material to any food, beverage, cosmetic, drug, or other product designed for ingestion or inhalation by, or application to, a human being.

2. Each type A specific license of broad scope issued under NAC 459.180 to 459.274, inclusive, will be subject to the condition that radioactive material possessed under the license may only be used by, or under the direct supervision of, persons approved by the radiation safety committee of the licensee.

3. Each type B specific license of broad scope issued under this article is subject to the condition that radioactive material possessed under the license may only be used by, or under the direct supervision of, persons approved by the radiation safety officer of the licensee.

4. Each type C specific license of broad scope issued under this article is subject to the condition that radioactive material possessed under the license may only be used by, or under the direct supervision of, persons who satisfy the requirements of NAC 459.272.

Sec. 54. NAC 459.300 is hereby amended to read as follows:

459.300 1. An application for a specific license to manufacture, prepare or transfer for commercial distribution radioactive drugs containing radioactive material for use by persons authorized under a license issued by the Nuclear Regulatory Commission or any other agreement state will be approved if:

(a) The applicant satisfies the general requirements specified in NAC 459.238;

(b) The applicant submits evidence that the applicant is:

(1) Registered or licensed as a drug manufacturer by:

(I) The United States Food and Drug Administration; or

(II) An agency of this State;

(2) Licensed as a pharmacy by the State Board of Pharmacy; or

(3) Operating as a nuclear pharmacy within a medical facility;

(c) The applicant submits information on the radionuclide, chemical and physical form, maximum activity per vial, syringe, generator or other container of the radioactive drug and shielding provided by the packaging of the radioactive material to demonstrate that it is appropriate for safe handling and storage of radioactive drugs by licensees authorized to use radioactive material for medical use; and

(d) The applicant complies with the following labeling requirements:

(1) A label must be affixed to each transport radiation shield of the radioactive drug, including, without limitation, shields made of lead, glass or plastic, to be transferred for commercial distribution. The label must set forth or contain the radiation symbol, the words "CAUTION, RADIOACTIVE MATERIAL" or "DANGER, RADIOACTIVE MATERIAL," the

name of the radioactive drug, or its abbreviation, and the quantity of radioactivity at the time and date specified on the label. For radioactive drugs with a half-life of more than 100 days, the time may be omitted from the label.

(2) A label must be affixed to each syringe, vial or other container used to hold a radioactive drug to be transferred for commercial distribution. The label must set forth the radiation symbol, the words "CAUTION, RADIOACTIVE MATERIAL" or "DANGER, RADIOACTIVE MATERIAL" and an identifier ~~[that]~~ ***which*** ensures that the syringe, vial or other container can be correlated with the information on the transport radiation shield label.

2. A licensee who is licensed as a pharmacy by the State Board of Pharmacy or who is operating as a nuclear pharmacy within a medical facility:

(a) May prepare a radioactive drug for medical use if the radioactive drug is prepared by an authorized nuclear pharmacist.

(b) May allow a pharmacist to work as an authorized nuclear pharmacist if the pharmacist is an authorized nuclear pharmacist ~~[.]~~ ***, as defined in 10 C.F.R. § 35.2, or if the pharmacist meets the requirements of 10 C.F.R. §§ 35.55(b) and 35.59, and the licensee has received an approved license amendment which identifies the pharmacist as an authorized nuclear pharmacist.***

(c) May designate a pharmacist as an authorized nuclear pharmacist if the pharmacist is identified, as of November 13, 2006, as an authorized user on a license for a nuclear pharmacy issued by the Division, the Nuclear Regulatory Commission pursuant to 10 C.F.R. Part 32 or an agreement state.

(d) Shall provide to the Division:

(1) A copy of the certification, license or permit for each pharmacist that authorizes the pharmacist to perform any of the activities set forth in this subsection within 30 days after performing such activities; and

(2) A copy of the license or registration of the pharmacy or nuclear pharmacy within 30 days after the pharmacist performs any of the activities set forth in this subsection.

3. A licensee who prepares radioactive drugs for medical use pursuant to this section shall:

(a) Possess and use an instrument to measure the radioactivity of alpha-, beta- or photon-emitting radioactive drugs;

(b) Have procedures for the use of the instrument;

(c) Measure, by direct measurement or by a combination of measurements and calculations, the amount of radioactivity in dosages of alpha-, beta- or photon-emitting radioactive drugs before transfer for commercial distribution;

(d) Perform tests before initial use, periodically and following repair on each instrument for accuracy, linearity and geometry dependence, as appropriate for the instrument, and make adjustments to the instrument if necessary; and

(e) Check each instrument for constancy and proper operation at the beginning of each day of use.

4. ~~[No provision]~~ ***The provisions*** of this section ~~[relieves]~~ ***do not relieve*** a licensee of his duty to comply with any other federal, state or local requirement governing the receipt, administration or use of drugs or radioactive drugs.

Sec. 55. NAC 459.306 is hereby amended to read as follows:

459.306 An application for a specific license to manufacture and distribute sources and devices containing radioactive material to persons licensed pursuant to 10 C.F.R. Part 35 or equivalent regulations of an agreement state, for use as a calibration ***, transmission*** or reference source or for the uses listed in 10 C.F.R. §§ 35.400, 35.500 and 35.600 or equivalent regulations of an agreement state, will be approved if:

1. The applicant satisfies the general requirements in NAC 459.238;

2. The applicant submits sufficient information regarding each type of source or device pertinent to an evaluation of its radiation safety, including:

(a) The radioactive material contained, its chemical and physical form, and amount;

(b) Details of design and construction of the source or device;

(c) Procedures for, and results of, prototype tests to demonstrate that the source or device will maintain its integrity under stresses likely to be encountered in normal use and in accidents;

(d) For devices containing radioactive material, the radiation profile of a prototype device;

(e) Details of quality control procedures to ensure that production sources and devices meet the standards of the design and prototype tests;

(f) Procedures and standards for calibrating sources and devices;

(g) Legends and methods for labeling sources and devices as to their radioactive content; and

(h) Instructions for handling and storing the source or device from the radiation safety standpoint, which instructions must be included on a durable label attached to the source or device or attached to a permanent storage container for the source or device, provided that instructions which are too lengthy for the label may be summarized on the label and printed in detail on a brochure which is referenced on the label; and

3. The label affixed to the source, device or permanent storage container for the source or device contains information on the radionuclide, quantity and date of assay, and a statement that the source or device is approved by the Division for distribution to persons licensed to use radioactive material identified in 10 C.F.R. §§ 35.57, 35.400, 35.500 and 35.600 or to persons who hold equivalent licenses of the Nuclear Regulatory Commission or an agreement state.

Sec. 56. NAC 459.3062 is hereby amended to read as follows:

459.3062 1. The provisions of 10 C.F.R. Part 35, as they existed on ~~[September 16, 2004,]~~ ***October 1, 2007,*** are hereby adopted by reference, subject to the following:

(a) 10 C.F.R. §§ 35.8, ***35.10(a), 35.11(c), 35.13(a), 35.13(b)(5), 35.57(b)(3),*** 35.4001 and 35.4002 are not adopted by reference.

(b) Except as otherwise provided in this chapter, the implementation date ~~[described]~~ ***specified*** in 10 C.F.R. §§ 35.10(a) and 35.10(d) is November 13, 2006.

(c) Except as otherwise provided in this chapter, the October 24, 2002, date ~~[described]~~ ***specified*** in 10 C.F.R. § 35.57(a)(1) shall be deemed to mean November 13, 2006.

(d) ***Except as otherwise provided in this chapter, the April 29, 2005, date specified in 10 C.F.R. § 35.57(a)(2) shall be deemed to mean April 29, 2008.***

(e) Except as otherwise provided in this section, any reference in 10 C.F.R. Part 35 to:

(1) "10 CFR Part 19" or "10 CFR 19" shall be deemed to mean "NAC 459.780 to 459.794, inclusive."

(2) "10 CFR 19.12" or "§ 19.12" shall be deemed to mean "NAC 459.784."

(3) "10 CFR Part 20" or "10 CFR 20" shall be deemed to mean "NAC 459.320 to 459.374, inclusive."

(4) "10 CFR 20.1101" or "§ 20.1101" shall be deemed to mean "paragraph (a) of subsection 1 of NAC 459.321."

(5) "10 CFR 20.1301(a)(1)" or "§ 20.1301(a)(1)" shall be deemed to mean "paragraph (a) of subsection 1 of NAC 459.335."

(6) "10 CFR 20.1301(c)" or "§ 20.1301(c)" shall be deemed to mean ~~[~~"paragraph (c) of subsection 1~~]~~ ***"subsection 2*** of NAC 459.335."

(7) "10 CFR 20.1501" or "§ 20.1501" shall be deemed to mean "NAC 459.337."

(8) "10 CFR Part 30" or "10 CFR 30" shall be deemed to mean "NAC 459.180 to 459.313, inclusive."

(9) "10 CFR 30.34(b)" or "§ 30.34(b)" shall be deemed to mean "subsection 2 of NAC 459.198."

(10) "10 CFR 30.6" or "§ 30.6" shall be deemed to mean "NAC 459.134."

(11) "10 CFR 32.72(b)(4)" or "§ 32.72(b)(4)" shall be deemed to mean "paragraph (c) of subsection 2 of NAC 459.300."

(12) "10 CFR Part 33" or "10 CFR 33" shall be deemed to mean "NAC 459.262 to 459.274, inclusive."

(13) "10 CFR 33.13" or "§ 33.13" shall be deemed to mean "NAC 459.268."

(14) "10 CFR Part 170," "10 CFR 170," "10 CFR Part 171" or "10 CFR 171" shall be deemed to mean "NAC 459.310."

(15) "Byproduct material" shall be deemed a reference to "radioactive material."

(16) "Commission" or "NRC" shall be deemed a reference to "Division."

(17) "Commission's regulations," "federal regulations" or "NRC regulations" shall be deemed a reference to "NAC 459.010 to 459.950, inclusive ~~[."]~~ ***, and sections 2 to 39, inclusive, of this regulation."***

(18) "NRC Form 313" shall be deemed a reference to "NRC Form 5," Application for Radioactive Material License, ~~[described in NAC 459.2434.]~~ ***specified by the Division.***

(19) "NRC license" shall be deemed a reference to "license issued by the Division pursuant to NAC 459.010 to 459.950, inclusive ~~[."]~~ ***, and sections 2 to 39, inclusive, of this regulation."***

(20) "NRC Operations Center ~~["]~~ ***," "NRC Regional Office listed in § 30.6"*** or "Director, Office of Nuclear Safety and Safeguards" shall be deemed a reference to "the provisions of NAC 459.134 and the contact information described in the State of Nevada Radiological Emergency Response Plan."

(21) "NRC or an Agreement State," "Commission or an Agreement State" or "Commission or by an Agreement State" shall be deemed a reference to "Division, Nuclear Regulatory Commission or an agreement state."

(22) The text of 10 C.F.R. § 35.491(b)(3) shall be deemed to read "Has obtained written attestation, signed by a preceptor authorized user who meets the requirements in § 35.490 or § 35.491 or equivalent requirements of an agreement state, that the individual has satisfactorily completed the requirements in paragraph (b)(1) and (b)(2) of this section and has achieved a level of competency sufficient to function independently as an authorized user of strontium-90 for ophthalmic use."

~~[(c)]~~ ***(f)*** The full text of any sentence that contains a reference to "10 CFR Part 21," "10 CFR 21," "10 CFR 30.7," "§ 30.7," "10 CFR 30.9," "§ 30.9," "10 CFR 30.10" or "§ 30.10" shall be deemed omitted.

2. A copy of the volume containing 10 C.F.R. Part 35 may be obtained ***by mail*** from the Superintendent of Documents, United States Government Printing Office, ~~[Washington, D.C. 20402-9325,]~~ ***P.O. Box 979050, St. Louis, Missouri 63197-9000, or by toll-free telephone at (866) 512-1800,*** at a cost of ~~[$61,]~~ ***$64,*** or free of charge at the Internet address **http://www.gpoaccess.gov/cfr/index.html.**

Sec. 57. NAC 459.313 is hereby amended to read as follows:

459.313 1. A licensee who ships radioactive waste intended for ultimate disposal at a licensed land disposal facility must document the information required on ***the*** Nuclear Regulatory Commission ~~[Form 541,]~~ Uniform Low-Level Radioactive Waste Manifest, and transfer the recorded manifest information to the intended consignee in accordance with the provisions of Appendix G.

2. Each manifest described in subsection 1 must include a certification by the waste generator as provided in section II of Appendix G.

3. Each person involved in the transfer for disposal or the disposal of radioactive waste, including, without limitation, the waste generator, waste collector, waste processor and disposal facility operator, shall comply with the requirements of section III of Appendix G.

4. A licensee who ships any by-product matter specified in subsections 2 and 3 of section 4 of this regulation, which is intended for disposal at a land disposal facility licensed pursuant to 10 C.F.R. Part 61, shall document the information required on the Nuclear Regulatory

Commission Uniform Low-Level Radioactive Waste Manifest and transfer the recorded information to the intended consignee in accordance with Appendix G.

Sec. 58. NAC 459.3585 is hereby amended to read as follows:

459.3585 1. Each licensee who expects to receive a package containing quantities of radioactive material in excess of a type A quantity, as defined in 10 C.F.R. § 71.4, as that section existed on January 1, 1993, shall make arrangements to receive:

(a) The package when the carrier offers it for delivery; or

(b) Notification of the arrival of the package at the terminal of the carrier and to take possession of the package expeditiously.

2. Except as otherwise provided in subsection 6, each licensee shall monitor the external surfaces of a package known to contain radioactive material for radioactive contamination and radiation levels if the package:

(a) Is labeled as containing radioactive material; or

(b) Has evidence of potential contamination.

3. The licensee shall perform the monitoring required ~~[pursuant to]~~ ***by*** subsection 2 as soon as practicable after receipt of the package, but not later than 3 hours after the package is received at the facility of the licensee if the package is received during the normal working hours of the licensee. If the package is received after the normal working hours of the licensee, the monitoring must be performed not later than 3 hours after the beginning of the next normal working day of the licensee.

4. A licensee shall immediately notify the carrier who made the final delivery of a package and, by telephone and telegram, mailgram or facsimile, the Division ~~[,]~~ if:

(a) Removable radioactive contamination on the surface of the package is detected that exceeds 22,000 disintegrations per minute per 100 square centimeters of package surface; or

(b) The radiation level at 1 meter from the surface of the package exceeds 10 milliroentgens per hour.

5. Each licensee shall:

(a) Establish, maintain and retain written procedures for safely opening packages in which radioactive material is received; and

(b) Ensure that the procedures established pursuant to paragraph (a) are followed and that consideration is given to any special instructions for the type of package being opened.

6. A licensee transferring a source of radiation in a special form in a motor vehicle owned or operated by the licensee to and from a work site is not required to comply with the requirements of subsection 2, but shall ensure that the source of radiation is still properly lodged in its shield.

~~[7. For the purposes of this section, the State Board of Health hereby adopts by reference 10 C.F.R. § 71.4, as that section existed on January 1, 1993. A copy of the volume containing that section may be purchased from the Superintendent of Documents, United States Government Printing Office, Washington, D.C. 20402, for the price of $21.]~~

Sec. 59. NAC 459.400 is hereby amended to read as follows:

459.400 As used in NAC 459.400 to 459.624, inclusive, ***and sections 15 to 39, inclusive, of this regulation,*** unless the context otherwise requires, the words and terms defined in NAC 459.402 to 459.546, inclusive, have the meanings ascribed to them in those sections.

Sec. 60. NAC 459.737 is hereby amended to read as follows:

459.737 1. In addition to any applicable requirement of NAC 459.010 to 459.794, inclusive, ***and sections 2 to 39, inclusive, of this regulation,*** a person licensed by the Division to use a sealed source to engage in industrial radiography shall comply with all applicable requirements of, and may rely on all applicable exclusions or exemptions included in, the provisions of Part 34 of Title 10 of the Code of Federal Regulations, as adopted by reference in this section. ***The provisions of this subsection do not apply to a person using an electronic source of radiation to conduct industrial radiography.***

2. Part 34 of Title 10 of the Code of Federal Regulations, as those provisions existed on January ~~[1, 2001,]~~ ***31, 2008,*** is hereby adopted by reference, subject to the following:

(a) ~~[Except as otherwise provided in this section, any reference to "Commission's regulations," "federal regulations" or "NRC regulations" shall be deemed a reference to "NAC 459.010 to 459.950, inclusive";~~

~~(b) Except in 10 C.F.R. § 34.20 and as otherwise provided in this section, any reference to the "Commission" or "NRC" shall be deemed a reference to the "Division";~~

~~(c) Except as otherwise provided in this section, any reference to "NRC or an Agreement State," "Commission or an Agreement State" or "Commission or by an Agreement State" shall be deemed a reference to "Division, Nuclear Regulatory Commission or an agreement state";~~

~~(d) Except as otherwise provided in this section, any reference to "NRC license" shall be deemed a reference to "license issued by the Division pursuant to NAC 459.010 to 459.950, inclusive";~~

~~(e) Any reference to "10 CFR part 19" or "10 CFR 19" shall be deemed a reference to "NAC 459.780 to 459.794, inclusive";~~

(f) Any reference to "10 CFR part 20" or "10 CFR 20" shall be deemed a reference to "NAC 459.320 to 459.374, inclusive";

(g) Any reference to "10 CFR 20.1601(a)(1)" or "§ 20.1601(a)(1)" shall be deemed a reference to "paragraph (a) of subsection 1 of NAC 459.341";

(h) Any reference to "10 CFR 20.1902" or "§ 20.1902" shall be deemed a reference to "NAC 459.3555";

(i) Any reference to "10 CFR 20.1903" or "§ 20.1903" shall be deemed a reference to "NAC 459.3565";

(j) Any reference to "10 CFR 20.2203" or "§ 20.2203" shall be deemed a reference to "NAC 459.371";

(k) The full text of a sentence that contains any reference to "10 CFR part 21" or "10 CFR 21" shall be deemed omitted;

(l) The full text of a sentence that contains any reference to "10 CFR 30.7," "§ 30.7," "10 CFR 30.9," "§ 30.9," "10 CFR 30.10" or "§ 30.10" shall be deemed omitted;

(m) Any reference to "10 CFR 30.33" or "§ 30.33" shall be deemed a reference to "NAC 459.238";

(n) Any reference to "10 CFR 30.50" or "§ 30.50" shall be deemed a reference to "NAC 459.373";

(o) Any reference to "10 CFR part 34" or "10 CFR 34" shall be deemed a reference to "this section";

(p) Any reference to "10 CFR 34.111" shall be deemed a reference to "NAC 459.120";

(q) Any reference to "10 CFR 150.20" or "§ 150.20" shall be deemed a reference to "NAC 459.210";

(r) In 10 C.F.R. § 34.3, any reference to "offshore platform radiography" shall be deemed a reference to "platform radiography";

(s) In 10 C.F.R. § 34.27(d), any reference to:

(1) "Commission regulations" shall be deemed a reference to "NAC 459.307"; and

(2) "Director of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001" or "Administrator of the appropriate Nuclear Regulatory Commission's Regional Office listed in appendix D of 10 CFR part 20 of this chapter 'Standards for Protection Against Radiation' " shall be deemed a reference to "Division pursuant to NAC 459.307";

(t) In 10 C.F.R. § 34.43(a)(2), any reference to "Commission" shall be deemed a reference to "Division, Nuclear Regulatory Commission or an agreement state";

(u) In 10 C.F.R. § 34.89, any reference to "Agreement State" shall be deemed a reference to "Nuclear Regulatory Commission or an agreement state";

(v) In 10 C.F.R. § 34.101(a), any reference to "U.S. Nuclear Regulatory Commission, Division of Industrial and Medical Nuclear Safety, Washington, D.C. 20555-0001, with a copy to the Director, Office for Analysis and Evaluation of Operation Data, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001," shall be deemed a reference to "Division";

(w) In 10 C.F.R. § 34.101(c), any reference to "appropriate NRC regional office listed in § 30.6(a)(2) of this chapter" shall be deemed a reference to "Division"; and

(x) In Appendix A to Part 34 of Title 10 of the Code of Federal Regulations:

~~(1) The reference in item 12 of section I to "Commission and other independent certifying organizations and/or Agreement States" shall be deemed a reference to "Division, Nuclear Regulatory Commission, other independent certifying organizations and agreement states";~~

~~(2) The reference in item 1 of section II to "Agreement State regulations" shall be deemed a reference to "regulations of the Nuclear Regulatory Commission or an agreement state"; and~~

~~(3) The reference in item 2 of section II to "an Agreement State or a NRC licensee" shall be deemed a reference to "a person that holds a license issued pursuant to NAC 459.010 to 459.950, inclusive, by the Nuclear Regulatory Commission or an agreement state."~~**]** ***The exclusion of references within 10 C.F.R. Part 34 to Part "21" and to 10 C.F.R. §§ "21.21," "30.7," "30.9" and "30.10";***

(b) The exclusion of "offshore" specified in the definition of "offshore platform radiography" set forth in 10 C.F.R. § 34.3;

(c) The substitution of the following wording:

(1) "Chapter 459 of the Nevada Administrative Code" for a reference to:

(I) "Commission's regulations," except as stated in subparagraph 6;

(II) "Federal regulations";

(III) "NRC regulations"; and

(IV) "This chapter" as stated in 10 C.F.R. § 34.101(a);

(2) "Division" for the reference to "Commission," except as stated in 10 C.F.R. § 34.20 and subsubparagraph (IV) of subparagraph 3;

(3) "Division, Nuclear Regulatory Commission or an agreement state" for references to:

(I) "NRC or an Agreement State";

(II) "Commission or by an Agreement State";

(III) "Commission or an Agreement State"; and

(IV) "Commission" in 10 C.F.R. § 34.43(a)(2);

(4) "License" for reference to "NRC license(s)";

(5) In 10 C.F.R. § 34.27(d), "reports of test results for leaking or contaminated sealed sources shall be made pursuant to NAC 459.307" for a reference to the following statement, "A report must be filed with the Director of Nuclear Material Safety and Safeguards, by an appropriate method listed in § 30.6(a) of this chapter, the report to be filed within 5 days of any test with results that exceed the threshold in this paragraph (d), and to describe the equipment involved, the test results, and the corrective action taken. A copy of the report must be sent to the Administrator of the appropriate Nuclear Regulatory Commission's Regional Office listed in appendix D of 10 C.F.R. part 20 of this chapter 'Standards for Protection Against Radiation.'";

(6) In 10 C.F.R. § 34.27(d), "subsection 3 of NAC 459.307" for the reference to "Commission regulations";

(7) In 10 C.F.R. § 34.43(a)(1), "10 C.F.R. § 30.6" for the reference to "§ 30.6(a) of this chapter";

(8) In 10 C.F.R. § 34.89, "a Nuclear Regulatory Commission or an agreement state" for the reference to "the Agreement State";

(9) In 10 C.F.R. § 34.101(a), "Division" for the reference to "NRC's Office of Federal and State Materials and Environmental Management Programs, by an appropriate method listed in § 30.6(a) of this chapter";

(10) In 10 C.F.R. § 34.101(c), "Division" for the reference to "appropriate NRC regional office listed in 10 C.F.R. § 30.6(a)(2) of this chapter";

(11) In Item 12, Section I of Appendix A to 10 C.F.R. Part 34, "Division, the Nuclear Regulatory Commission and other independent certifying organizations or agreement states" for the reference to "Commission and other independent certifying organizations and/or Agreement States";

(12) In Item 1, Section II of Appendix A to 10 C.F.R. Part 34, "equivalent Nuclear Regulatory Commission or agreement state regulations" for the reference to "equivalent Agreement State regulations"; and

(13) In Item 2(c), Section II of Appendix A to 10 C.F.R. Part 34, "a Nevada, Nuclear Regulatory Commission or an agreement state licensee" for the reference to "an Agreement State or a NRC licensee"; and

(d) The substitution of the following:

(1) "Subsection 1 of NAC 459.120" for the reference to "10 CFR 34.111";

(2) "NAC 459.320 to 459.374, inclusive," for the reference to "10 CFR 20";

(3) "Paragraph (a) of subsection 1 of NAC 459.341" for the reference to "10 CFR 20.1601(a)(1)";

(4) "Subsections 1 and 2 of NAC 459.3555" for the reference to "10 CFR 20.1902(a) and (b)";

(5) "NAC 459.3565" for the reference to "10 CFR 20.1903";

(6) "NAC 459.371" for the reference to "10 CFR 20.2203";

(7) "NAC 459.780 to 459.794, inclusive," for the reference to "10 CFR 19";

(8) "NAC 459.210" for the reference to "10 CFR 150.20";

(9) "NAC 459.373" for the reference to "§ 30.50";

(10) "NAC 459.238" for the reference to "10 CFR 30.33"; and

(11) "NAC 459.737" for the reference to "10 CFR 34."

3. The following sections of Part 34 of Title 10 of the Code of Federal Regulations, as those provisions existed on January ~~[1, 2001,]~~ ***31, 2008,*** are not adopted by reference:

(a) Section 34.1;

(b) Section 34.5;

(c) Section 34.8;

(d) Section 34.11;

(e) Section 34.45(a)(9);

(f) Section 34.121; and

(g) Section 34.123.

4. A copy of a publication that contains Part 34 of Title 10 of the Code of Federal Regulations may be obtained ***by mail*** from the Superintendent of Documents, United States Government Printing Office, ~~[Washington, D.C. 20402,]~~ ***P.O. Box 979050, St. Louis, Missouri 63197-9000, or by toll-free telephone at (866) 512-1800,*** at the price of ~~[$55.]~~ ***$64, or free of charge at the Internet address http://www.gpoaccess.gov/cfr/index.html.***

Sec. 61. NAC 459.014, 459.2434, 459.2565, 459.3064, 459.3066 and 459.3068 and Section 9 of LCB File No. R149-07 are hereby repealed.

TEXT OF REPEALED SECTIONS

459.014 "Accelerator produced material" defined. "Accelerator produced material" means any material made radioactive by exposing it in a particle accelerator.

459.2434 Specific licenses: Application, amendment or renewal of license for medical use of radioactive material.

1. An application for a license for medical use of radioactive material must be made by submitting an original and one copy of NRC Form 5 to the Division. NRC Form 5 and its instructions may be obtained at no charge from the Division.

2. An application for amendment to a license or renewal of a license for medical use of radioactive material must be made by submitting an original and one copy of a letter of request to the Division.

459.2565 Specific licenses: Use of sealed sources for diagnosis.

1. A licensee may use the following sealed sources for diagnosis in accordance with the radiation safety and handling instructions of the manufacturer:

(a) Iodine-125, americium-241 and gadolinium-153 in a device for bone mineral analysis; and

(b) Iodine-125 in a portable imaging device.

2. A licensee who uses radioactive material as a sealed source for diagnosis shall have in his possession a portable radiation detection survey instrument capable of:

(a) Detecting dose rates that range from 0.1 millirem per hour to 100 millirem per hour; or

(b) Measuring dose rates that range from 1 millirem per hour to 1000 millirem per hour.

459.3064 Written attestations not required for authorized users who have license issued by Nuclear Regulatory Commission or agreement state. The written attestations described in 10 C.F.R. §§ 35.14(a), 35.50(d), 35.51(b)(2), 35.55(b)(2), 35.190(c)(2), 35.290(c)(2), 35.390(b)(2), 35.392(c)(3), 35.394(c)(3), 35.396(d)(3), 35.490(b)(3), 35.491(b)(3) and 35.690(b)(3) are not required for authorized users who have been named on a radioactive material license issued by the Nuclear Regulatory Commission or an agreement state before November 13, 2006.

459.3066 Satisfaction of training requirements for radiation safety officer, authorized medical physicist, authorized nuclear pharmacist or authorized user.

1. Before April 29, 2008, a licensee shall satisfy the training requirements for a radiation safety officer, an authorized medical physicist, an authorized nuclear pharmacist or an authorized user by complying with:

(a) The appropriate provisions of 10 C.F.R. Part 35, Subpart J; or

(b) The appropriate provisions of 10 C.F.R. Part 35, Subpart B or Subparts D to H, inclusive.

2. On or after April 29, 2008, a licensee shall satisfy the training requirements for a radiation safety officer, an authorized medical physicist, an authorized nuclear pharmacist or an authorized user by complying with the provisions of 10 C.F.R. Part 35, Subpart B or Subparts D to H, inclusive.

459.3068 Additional requirements for persons registered to use sealed source to engage in medical use. Except as otherwise provided in NAC 459.3064 and 459.3066, in addition to any applicable requirement of NAC 459.010 to 459.794, inclusive, a person registered with the Division to use a sealed source to engage in medical use of a radioactive material shall comply with all applicable requirements of, and may rely on all applicable exclusions or exemptions included in, the provisions of 10 C.F.R. Part 35, as adopted by reference pursuant to NAC 459.3062.

Section 9 of LCB File No. R149-07

The provisions of 10 C.F.R. Part 71, as those provisions existed on January 26, 2004, are hereby adopted by reference, subject to the following:

1. "Byproduct material" as described in 10 C.F.R. § 71.4 shall be deemed to include naturally occurring and accelerator-produced radioactive material.

2. The provisions of 10 C.F.R. §§ 71.6, 71.65 and 71.100 are not adopted by reference.

3. The references in 10 C.F.R. §§ 71.9(e)(1) and 71.9(e)(2) to "NRC Form 3" shall be deemed to be references to Form NRC-1, "Notice to Employees."

4. The reference in 10 C.F.R. § 71.9(e)(1) to "§ 19.11(c)" shall be deemed to be a reference to "subsection 3 of NAC 459.782."

5. The provisions of 10 C.F.R. § 71.9(f) are not adopted by reference.

6. Any reference to "licensee," "applicant," "applicant for a license," "NRC licensee," "NRC applicant," "Commission licensee," "Commission applicant" or "licensee of the Commission" shall be deemed to be a reference to "licensee of the Division" or "applicant for a license issued by the Division," except that the references in 10 C.F.R. § 71.37 to "the applicant" refer to an applicant to the Nuclear Regulatory Commission. Any reference to "license," "NRC license," "Commission license" or "license issued by the Commission" shall be deemed to be a reference to "license issued by the Division."

7. Any reference to "the Commission," "the Nuclear Regulatory Commission" or "the NRC" shall be deemed to be a reference to "the Division," except that any reference to "the Commission," "the Nuclear Regulatory Commission" or "the NRC" described in paragraphs (a) to (v), inclusive, shall not be deemed to be a reference to the Division:

(a) 10 C.F.R. §§ 71.0(a)(2), 71.0(d)(1) and 71.0(g);

(b) 10 C.F.R. § 71.1(a);

(c) 10 C.F.R § 71.4, definition of "certificate holder";

(d) 10 C.F.R. § 71.4(3);

(e) 10 C.F.R. § 71.8(b)(2);

(f) 10 C.F.R. § 71.10;

(g) 10 C.F.R. § 71.12;

(h) The reference in 10 C.F.R. § 71.17(a) to "the NRC";

(i) The reference in 10 C.F.R. § 71.17(b) to "the Commission";

(j) 10 C.F.R. § 71.17(c)(3);

(k) 10 C.F.R. § 71.17(e);

(l) 10 C.F.R. §§ 71.19(a), 71.19(c), 71.19(d) and 71.19(e);

(m) The reference in 10 C.F.R. § 71.23(b) to "the Commission";

(n) 10 C.F.R. § 71.38(b);

(o) 10 C.F.R. § 71.39;

(p) 10 C.F.R. §§ 71.41(a), 71.41(b) and 71.41(c);

(q) 10 C.F.R. § 71.55(c);

(r) The reference in 10 C.F.R. § 71.85(c) to "the Commission";

(s) The reference in 10 C.F.R. § 71.93(c) to "the NRC";

(t) The reference in 10 C.F.R. § 71.95(a)(1) to "the NRC";

(u) 10 C.F.R. § 71.99; and

(v) 10 C.F.R. § 71.101(g).

8. The provisions of 10 C.F.R. § 71.100 are not adopted by reference.