

**ADOPTED REGULATION OF THE
STATE BOARD OF HEALTH**

LCB File No. R149-07

Effective January 30, 2008

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

AUTHORITY: §1, NRS 439.150 and 457.184; §§2-11, 16, 18, 26, 28-32, 35, 44, 54, 56, 57, 62, 65, 67, 69 and 76, NRS 459.030 and 459.201; §§12-15, 17, 19-23, 25, 27, 33, 34, 36-43, 45-49, 51, 55, 58-61, 63, 64, 66 and 70-75, NRS 459.201; §§24 and 50, NRS 459.150 and 459.201; §§52, 53 and 68, NRS 459.030.

A REGULATION relating to radioactive materials; revising certain provisions concerning the labeling of certain sealed sources of radioactive material; requiring certain licensees of the Health Division of the Department of Health and Human Services to submit reports concerning the manufacture, transfer, receipt, disassembly and disposal of certain sealed sources of radioactive material to the National Source Tracking System administered by the Nuclear Regulatory Commission; adopting by reference certain provisions of 10 C.F.R Part 71; increasing certain fees; and providing other matters properly relating thereto.

Section 1. NAC 457.295 is hereby amended to read as follows:

457.295 The Health Division shall charge and collect the following nonrefundable fees:

1. For the issuance or renewal of a certificate for a machine, ~~[\$500.]~~ ***\$551.***
2. For the issuance or renewal of a mammographer's certificate, ~~[\$80.]~~ ***\$88.***
3. For the issuance or renewal of a certificate to provide training to mammographers

pursuant to NAC 457.357, \$100.

Sec. 2. Chapter 459 of NAC is hereby amended by adding thereto the provisions set forth as sections 3 to 9, inclusive, of this regulation.

Sec. 3. ***“Appendix E” means Appendix E to 10 C.F.R. §§ 20.1001 to 20.2402, inclusive, as those provisions existed on November 8, 2006.***

Sec. 4. *“National Source Tracking System” means the mandatory tracking system for radiation sources in the United States established and administered by the Nuclear Regulatory Commission pursuant to 42 U.S.C. § 2210h.*

Sec. 5. *“National Source Tracking Transaction Report” means a report submitted to the National Source Tracking System.*

Sec. 6. *“Nationally tracked source” has the meaning ascribed to it in 10 C.F.R. § 20.1003.*

Sec. 7. *Each licensee who manufactures a nationally tracked source on or after January 30, 2008, shall assign a unique serial number to each nationally tracked source. Each unique serial number must be composed only of alpha-numeric characters.*

Sec. 8. 1. *Each licensee who manufactures a nationally tracked source shall complete and submit to the National Source Tracking System a National Source Tracking Transaction Report which must include, without limitation:*

(a) The name, address and license number of the licensee;

(b) The name of the person preparing the report;

(c) The manufacturer, model number and serial number of the nationally tracked source;

(d) The radioactive material contained in the nationally tracked source;

(e) The initial source strength in becquerels (curies) of the nationally tracked source at the time of manufacture; and

(f) The date of manufacture of the nationally tracked source.

2. *Each licensee who transfers a nationally tracked source to another person shall complete and submit to the National Source Tracking System a National Source Tracking Transaction Report which must include, without limitation:*

- (a) The name, address and license number of the licensee;*
- (b) The name of the person preparing the report;*
- (c) The name, license number and shipping address of the recipient of the nationally tracked source;*
- (d) The manufacturer, model number and serial number of the nationally tracked source or, if such information is not available, any other information to uniquely identify the nationally tracked source;*
- (e) The radioactive material contained in the nationally tracked source;*
- (f) The initial or current source strength in becquerels (curies);*
- (g) The date for which the source strength is reported;*
- (h) The date on which the nationally tracked source was shipped;*
- (i) The estimated arrival date of the nationally tracked source; and*
- (j) For a nationally tracked source which is transferred as waste under a Uniform Low-Level Radioactive Waste Manifest, the waste manifest number and the container identification number of the nationally tracked source.*

3. Each licensee who receives a nationally tracked source shall complete and submit to the National Source Tracking System a National Source Tracking Transaction Report which must include, without limitation:

- (a) The name, address and license number of the licensee;*
- (b) The name of the person preparing the report;*
- (c) The name, address and license number of the person who provided the nationally tracked source;*

(d) The manufacturer, model number and serial number of the nationally tracked source or, if such information is not available, any other information to uniquely identify the nationally tracked source;

(e) The radioactive material contained in the nationally tracked source;

(f) The initial or current source strength in becquerels (curies);

(g) The date for which the source strength is reported;

(h) The date of receipt of the nationally tracked source; and

(i) For a nationally tracked source received under a Uniform Low-Level Radioactive Waste Manifest, the waste manifest number and the container identification number of the nationally tracked source.

4. Each licensee who disassembles a nationally tracked source shall complete and submit to the National Source Tracking System a National Source Tracking Transaction Report which must include, without limitation:

(a) The name, address and license number of the licensee;

(b) The name of the person preparing the report;

(c) The manufacturer, model number and serial number of the nationally tracked source or, if such information is not available, any other information to uniquely identify the nationally tracked source;

(d) The radioactive material contained in the nationally tracked source;

(e) The initial or current source strength in becquerels (curies);

(f) The date for which the source strength is reported; and

(g) The date of disassembly of the nationally tracked source.

5. Each licensee who disposes of a nationally tracked source shall complete and submit to the National Source Tracking System a National Source Tracking Transaction Report which must include, without limitation:

- (a) The name, address and license number of the licensee;*
- (b) The name of the person preparing the report;*
- (c) The waste manifest number;*
- (d) The container identification number of the nationally tracked source;*
- (e) The date of disposal of the nationally tracked source; and*
- (f) The method of disposal of the nationally tracked source.*

6. Any National Source Tracking Transaction Report required pursuant to subsections 1 to 5, inclusive, must be submitted by the close of the next business day after the transaction. A single National Source Tracking Transaction Report may be submitted for multiple sources and transactions. The National Source Tracking Transaction Report must be submitted to the National Source Tracking System:

- (a) By the use of the online National Source Tracking System;*
- (b) By the use of a computer-readable electronic format;*
- (c) By facsimile;*
- (d) By mail to the address listed on the National Source Tracking Transaction Report Form (NRC Form 748); or*
- (e) By telephone with follow-up by facsimile or mail.*

7. A licensee shall correct any error in a previously filed National Source Tracking Transaction Report or file a new National Source Tracking Transaction Report for any missed

transaction not later than 5 business days after the discovery of the error or missed transaction.

8. Each licensee shall, on or before January 31 of each year:

(a) Reconcile the inventory of nationally tracked sources possessed by the licensee against the data contained in the National Source Tracking System;

(b) Resolve any discrepancies between the National Source Tracking System and the actual inventory of the licensee by filing any necessary National Source Tracking Transaction Report in accordance with the provisions of subsections 1 to 5, inclusive; and

(c) Submit to the National Source Tracking System confirmation that the data in the National Source Tracking System is correct.

9. Each licensee who possesses any Category 1 nationally tracked source on January 30, 2008, shall report its initial inventory of Category 1 nationally tracked sources to the National Source Tracking System not later than February 29, 2008. Each licensee who possesses any Category 2 nationally tracked source on January 30, 2008, shall report its initial inventory of Category 2 nationally tracked sources to the National Source Tracking System not later than February 29, 2008. The reports may be submitted by any method described in paragraphs (a) to (e), inclusive, of subsection 6 and must include, without limitation:

(a) The name, address and license number of the licensee;

(b) The name of the person preparing the report;

(c) The manufacturer, model number and serial number of each nationally tracked source or, if that information is not available, any other information to uniquely identify the nationally tracked source;

(d) The radioactive material contained in the nationally tracked source;

- (e) The initial or current source strength in becquerels (curies); and*
- (f) The date for which the source strength is reported.*

Sec. 9. *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.*

Sec. 10. NAC 459.010 is hereby amended to read as follows:

459.010 As used in NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation*, unless the context otherwise requires, the words and terms defined in NAC 459.012 to 459.116, inclusive, *and sections 3 to 6, inclusive, of this regulation* have the meanings ascribed to them in those sections.

Sec. 11. NAC 459.021 is hereby amended to read as follows:

459.021 1. “Background radiation” means:

- (a) Radiation from cosmic sources;
- (b) Naturally occurring radioactive materials, including radon, except as a product of decay from source or special nuclear materials; and
- (c) Global fallout as it exists in the environment from the testing of nuclear explosive devices, or past nuclear accidents, that contributes to background radiation and is not under the control of the licensee.

2. The term does not include sources of radiation from any radioactive material regulated by the Division pursuant to NAC 459.010 to 459.950, inclusive ~~[-]~~, *and sections 3 to 9, inclusive, of this regulation.*

Sec. 12. NAC 459.048 is hereby amended to read as follows:

459.048 “License” means a license issued by the Division in accordance with the provisions of NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation*, and chapter 459 of NRS.

Sec. 13. NAC 459.050 is hereby amended to read as follows:

459.050 “Licensee” means any person who is licensed by the Division in accordance with the provisions of NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation*, and chapter 459 of NRS.

Sec. 14. NAC 459.080 is hereby amended to read as follows:

459.080 “Registrant” means any person who is registered with the Division and who is legally obligated to register with the Division pursuant to NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation*, and chapter 459 of NRS.

Sec. 15. NAC 459.082 is hereby amended to read as follows:

459.082 “Registration” means registration with the Division in accordance with the provisions of NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation*, and chapter 459 of NRS.

Sec. 16. NAC 459.118 is hereby amended to read as follows:

459.118 The provisions of NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation* apply to all persons who receive, possess, use, transfer, own or acquire any source of radiation except as otherwise specifically provided in NAC 459.010 to 459.950, inclusive ~~H~~, *and sections 3 to 9, inclusive, of this regulation*. Nothing in NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation* applies to any person to the extent he is subject to regulation by the Nuclear Regulatory Commission.

Sec. 17. NAC 459.120 is hereby amended to read as follows:

459.120 1. The Division may, upon application or its own initiative, grant exemptions or exceptions from the requirements of NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation* as it determines will not result in undue hazard to public health and safety or property.

2. Common and contract carriers, freight forwarders and warehousemen who are subject to the regulations of the United States Department of Transportation or the United States Postal Service, 39 C.F.R. Parts 14 and 15, are exempt from NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation* to the extent that they transport or store sources of radiation in the regular course of their carriage for another or store the sources as an incident to such transportation. Private carriers who are subject to the regulations of the United States Department of Transportation are exempt from NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation* to the extent that they transport sources of radiation. Common, contract and private carriers who are not subject to the regulations of the United States Department of Transportation or the United States Postal Service are subject to applicable sections of NAC 459.010 to 459.950, inclusive **[H]**, *and sections 3 to 9, inclusive, of this regulation.*

3. Any contractor or subcontractor of the United States Department of Energy or the Nuclear Regulatory Commission who is in one of the following categories and operating within this State is exempt from NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation* to the extent that, under his contract, he receives, possesses, uses, transfers or acquires sources of radiation:

(a) Any prime contractor performing work for the United States Department of Energy at sites owned or controlled by the United States Government, transporting sources of radiation to or from such sites, or performing contract services during temporary interruptions of such transportation.

(b) Any prime contractor of the United States Department of Energy performing research in, or development, manufacture, storage, testing or transportation of atomic weapons or components thereof.

(c) Any prime contractor of the United States Department of Energy using or operating a nuclear reactor or other nuclear device in a vehicle or vessel owned by the United States Government.

(d) Any other prime contractor or subcontractor of the United States Department of Energy or of the Nuclear Regulatory Commission when the State and the Nuclear Regulatory Commission jointly determine that:

- (1) The exemption of the prime contractor or subcontractor is authorized by law; and
- (2) Under the terms of the contract or subcontract there is adequate assurance that the work thereunder can be accomplished without undue risk to public health or safety.

Sec. 18. NAC 459.124 is hereby amended to read as follows:

459.124 1. In addition to other records required by NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation*, each licensee and registrant shall maintain records showing his receipt, transfer and disposal of all sources of radiation.

2. A licensee authorized to possess, in an unsealed form, radioactive material with a half-life greater than 120 days shall:

- (a) Before his license terminates, forward to the Division:
 - (1) All records of licensed radioactive material disposed of by the licensee pursuant to NAC 459.3595 to 459.3615, inclusive, including burials authorized before January 28, 1981; and
 - (2) All records required by paragraph (d) of subsection 2 of NAC 459.3645; and

(b) If the licensee transfers or assigns any licensed activities to another licensee, transfer to the other licensee:

(1) All records of licensed material disposed of by the licensee pursuant to NAC 459.3595 to 459.3615, inclusive, including burials authorized before January 28, 1981; and

(2) All records required by paragraph (d) of subsection 2 of NAC 459.3645.

3. A licensee to whom records are transferred pursuant to paragraph (b) of subsection 2 shall maintain the records until the termination of his license.

4. A licensee whose license is being terminated shall, before his license terminates, forward to the Division the records required by subsection 12 of NAC 459.1955.

Sec. 19. NAC 459.134 is hereby amended to read as follows:

459.134 All communications and reports concerning the provisions of NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation* and copies of regulatory guides and applications filed under those provisions should be addressed to the Radiological Health Section, Health Division, ~~{505 East King Street,}~~ *4150 Technology Way, Suite 300,* Carson City, Nevada ~~{89701.}~~ *89706.*

Sec. 20. NAC 459.136 is hereby amended to read as follows:

459.136 1. Any licensee or registrant who has reason to believe that an action by the Division or one or more of the Division's staff members pursuant to NAC 459.118 to 459.950, inclusive, *and sections 7, 8 and 9, of this regulation* concerning him has been incorrect or based on inadequate knowledge may, within 10 business days after receiving notice of the action, request an informal discussion with the employee responsible for the action and the immediate supervisor of the employee.

2. If the informal discussion does not resolve the problem, the aggrieved person may, within 10 business days after the date scheduled for the informal discussion, submit a written request to the Bureau for an informal conference. The informal conference must be scheduled for a date, place and time mutually agreed upon by the aggrieved person and the Bureau, except that the informal conference must be held no later than 60 days after the date on which the Bureau received the written request.

3. Except as otherwise provided in subsection 4, the determination of the Bureau resulting from the informal conference cannot be appealed and is the final remedy available to the aggrieved person.

4. An applicant for or holder of a license or registration issued pursuant to NAC 459.118 to 459.950, inclusive, *and sections 7, 8 and 9 of this regulation* who is aggrieved by the Health Division taking any disciplinary action pursuant to NRS 459.010 to 459.290, inclusive, may appeal that action in accordance with NAC 439.300 to 439.395, inclusive, after exhausting the informal procedures set forth in this section, except that the Bureau may waive the informal procedures, or any portion thereof, by giving written notice to the aggrieved person.

5. As used in this section, “Bureau” means the Bureau of Health Protection Services of the Health Division of the Department of Health and Human Services or its successor.

Sec. 21. NAC 459.138 is hereby amended to read as follows:

459.138 No licensee or registrant may change the method observed by him for determining calendar quarters for purposes of NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation* except at the beginning of a calendar year.

Sec. 22. NAC 459.142 is hereby amended to read as follows:

459.142 If any of the provisions of NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation* or any application thereof to any person, thing or circumstance is held invalid, it is intended that such invalidity not affect the remaining provisions, or their application, that can be given effect without the invalid provision or application.

Sec. 23. NAC 459.154 is hereby amended to read as follows:

459.154 1. Except as otherwise provided in subsection 2, each person who controls an unregistered, operational radiation machine shall apply to the Division for registration of the machine within 30 days after installing the machine.

2. A person who brings a portable machine into this State for a temporary use of 180 days or less in any calendar year:

(a) Must apply to the Division for registration of the machine for a temporary use at least 3 working days before using it in this State;

(b) Shall comply with all other applicable provisions of NAC 459.010 to 459.950, inclusive ~~§~~, *and sections 3 to 9, inclusive, of this regulation;*

(c) Shall furnish the Division with any other information it may reasonably request; and

(d) Shall not use the machine in this State more than 180 days per calendar year.

3. The application must be made on the Division's Form NRC-4, Application for Registration of Radiation Machine. A copy of the form may be obtained from the Division. A separate application and registration are required for each control console of a radiation machine.

4. Each application for registration of an X-ray machine must contain a list of the numbers of the X-ray tubes associated with a control panel.

5. Each person who controls a radiation machine must designate on the application form a person where the machine is located who is responsible for protection against radiation.

6. Each person who seeks to engage in the business of installing radiation machines, furnishing services or repairing radiation machines in this State must apply for registration with the Division and receive a certificate of registration before furnishing any services.

7. Each application for registration by a person to install, service or repair radiation machines must be accompanied by a nonrefundable annual fee of ~~[\$70]~~ \$140, or the application must not be acted upon by the Division.

Sec. 24. NAC 459.161 is hereby amended to read as follows:

459.161 1. An application for the registration of a radiation machine submitted pursuant to NAC 459.154 must be accompanied by a nonrefundable fee for each X-ray tube or electron source which is installed in the radiation machine, as follows:

(a) Medical use, other than mammography, ~~[\$250.]~~ \$500.

(b) Veterinary use, ~~[\$75.]~~ \$150.

(c) Dental use, ~~[\$70.]~~ \$140.

(d) Industrial use, ~~[\$100.]~~ \$200.

(e) Academic use, ~~[\$75.]~~ \$150.

(f) Accelerator, ~~[\$275.]~~ \$550.

2. Except as otherwise provided in subsection 3, if the Division issues a registration certificate pursuant to NAC 459.156, the registrant must, for each year the certificate is valid, submit to the Division a nonrefundable renewal fee in an amount equal to the appropriate fee set forth in subsection 1.

3. The renewal fee must be received by the Division not later than the date on which the registration expires. If the fee is not received by that date, the registrant ~~[must:]~~ shall:

(a) Stop operating the radiation machine which does not have a valid registration on or before the date the registration expires; or

(b) Submit to the Division within 5 days after the registration expires:

(1) An application for renewal of the registration;

(2) A fee in an amount that is equal to the appropriate fee set forth in subsection 1; and

(3) A fee for late payment of ~~[\$50]~~ \$56 per registration.

4. Any application for registration or renewal of registration which is not accompanied by the appropriate fees will not be acted upon by the Division until such fees are paid.

5. An application for a certificate of authorization for a radiation machine must be accompanied by a nonrefundable fee for each machine as required pursuant to NAC 457.295.

Sec. 25. NAC 459.166 is hereby amended to read as follows:

459.166 1. Any person who sells, leases, transfers, lends, disposes, assembles or installs radiation machines in this State or sells, leases, transfers or disposes of a radiation machine currently registered in this State shall, within 15 days, notify the Division of:

(a) The name and address of each person who has received such a machine;

(b) The manufacturer, model and serial number of each control console and X-ray tube transferred; and

(c) The date of transfer of each machine.

2. A person shall not make, sell, lease, transfer, lend, assemble or install any radiation machine or the supplies and equipment used in connection with such a machine unless the machine and any supplies and equipment, when properly placed in operation and used, meet the applicable requirements of NAC 459.010 to 459.950, inclusive ~~[,]~~, *and sections 3 to 9, inclusive, of this regulation.*

Sec. 26. NAC 459.180 is hereby amended to read as follows:

459.180 1. The provisions of NAC 459.180 to ~~459.314,~~ **459.313**, inclusive, *and sections 7, 8 and 9 of this regulation* 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 ~~459.314,~~ **459.313**, inclusive, *and sections 7, 8 and 9 of this regulation* or as otherwise provided in those sections.

2. In addition to the requirements of NAC 459.180 to ~~459.314,~~ **459.313**, inclusive, *and sections 7, 8 and 9 of this regulation*, 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. 27. NAC 459.182 is hereby amended to read as follows:

459.182 1. Any person is exempt from NAC 459.180 to ~~459.314,~~ **459.313**, inclusive, *and sections 7, 8 and 9 of this regulation* to the extent that he receives, possesses, uses, owns or transfers source material in any chemical mixture, compound, solution or alloy in which the source material is by weight less than 0.05 percent of the mixture, compound, solution or alloy.

2. Any person is exempt from NAC 459.180 to ~~459.314,~~ **459.313**, inclusive, *and sections 7, 8 and 9 of this regulation* to the extent that he receives, possesses, uses or transfers unrefined and unprocessed ore containing source material. Except as authorized in a specific license, such a person may not refine or process such ore.

3. Any person is exempt from NAC 459.180 to ~~459.314,~~ **459.313**, inclusive, *and sections 7, 8 and 9 of this regulation* to the extent that he receives, possesses, uses or transfers any of the following:

(a) Any quantities of thorium contained in:

- (1) Incandescent gas mantles;
- (2) Vacuum tubes;
- (3) Welding rods;
- (4) Electric lamps for illuminating purposes if each lamp does not contain more than 50 milligrams of thorium;
- (5) Germicidal lamps, sunlamps and lamps for outdoor or industrial lighting ~~if~~ if each lamp does not contain more than 2 grams of thorium;
- (6) Rare earth metals and compounds, mixtures and products containing not more than 0.25 percent by weight thorium, uranium or any combination of these; or
- (7) Personnel neutron dosimeters if each dosimeter does not contain more than 50 milligrams of thorium.

(b) Source material contained in the following products:

- (1) Glazed ceramic tableware ~~if~~ if the glaze contains not more than 20 percent by weight source material;
- (2) Glassware containing not more than 10 percent by weight source material, but not including commercially manufactured glass brick, pane glass, ceramic tile or other glass, glass enamel or ceramic used in construction; or
- (3) Piezoelectric ceramic containing not more than 2 percent by weight source material.

(c) Photographic film, negatives and prints containing uranium or thorium.

(d) Any finished product or part which is fabricated of or contains tungsten-thorium or magnesium-thorium alloys if the thorium content of the alloy does not exceed 4 percent by weight. This exemption does not authorize the chemical, physical, or metallurgical treatment or processing of any such product or part.

(e) Uranium contained in counterweights installed in aircraft, rockets, projectiles and missiles, or stored or handled in connection with installation or removal of counterweights if:

(1) The counterweights are manufactured in accordance with a specific license issued by the Nuclear Regulatory Commission authorizing distribution by the licensee pursuant to 10 C.F.R. Part 40;

(2) Each counterweight has been impressed with the following legend clearly legible through the plating or other covering: “DEPLETED URANIUM”; *and*

(3) Each counterweight is durably and legibly labeled or marked with the identification of the manufacturer and the statement: “UNAUTHORIZED ALTERATIONS PROHIBITED .” ~~”;~~

~~—(4)~~

↳ The exemption contained in *this* paragraph ~~(e)~~ does not authorize the chemical, physical or metallurgical treatment or processing of any such counterweights other than repair or restoration of any plating or other covering . ~~;~~ *and*

~~—(5)~~ The requirements specified in subparagraphs (2) and (3) ~~above~~ need not be met by counterweights manufactured before December 31, 1969, provided that such counterweights are impressed with the legend, “CAUTION - RADIOACTIVE MATERIAL - URANIUM,” as previously required by the regulations of the Board before February 28, 1980.

(f) Natural or depleted uranium metal used as shielding in any shipping container ~~(f)~~ if:

(1) The shipping container is conspicuously and legibly impressed with the legend “CAUTION - RADIOACTIVE SHIELDING - URANIUM”; and

(2) The uranium metal is encased in mild steel or an equally fire resistant metal with a wall thickness of one-eighth of an inch.

(g) Thorium contained in finished optical lenses ~~is~~ if each lens does not contain more than 30 percent by weight of thorium. The exemption contained in this paragraph does not authorize either:

(1) The shaping, grinding or polishing of such lenses or manufacturing processes other than the assembly of such lenses into optical systems and devices without any alteration of the lenses; or

(2) The receipt, possession, use or transfer of thorium contained in contact lenses, in spectacles, or in eyepieces in binoculars or other optical instruments.

(h) Uranium contained in detector heads for use in fire-detection units if each detector head contains not more than 0.005 microcurie of uranium.

(i) Thorium contained in any finished aircraft engine part containing nickel-thoria alloy ~~is~~ if:

(1) The thorium is dispersed in the nickel-thoria alloy in the form of finely divided thoria (thorium dioxide); and

(2) The thorium content in the nickel-thoria alloy does not exceed 4 percent by weight.

4. The exemptions in subsection 3 do not authorize the manufacture of any of the products described.

Sec. 28. NAC 459.184 is hereby amended to read as follows:

459.184 1. Except as otherwise provided in subsection 2, any person is exempt from NAC 459.180 to ~~[459.314,]~~ **459.313**, inclusive, *and sections 7, 8 and 9 of this regulation* to the extent that he receives, possesses, uses, transfers, owns or acquires products or materials containing:

(a) Radioactive material in concentrations not in excess of those listed in NAC 459.186; or

(b) Naturally occurring radioactive material that contains less than 5 picocuries of radium 226 per gram of material.

2. A person shall not introduce radioactive material into a product or material knowing or having reason to believe that it will be transferred to persons exempt under subsection 1 or the equivalent regulations of the Nuclear Regulatory Commission or any agreement state, except in accordance with a specific license issued pursuant to NAC 459.276 or the general licenses provided in NAC 459.210.

3. Except as otherwise provided in subsections 4 and 5, any person is exempt from the provisions of NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation* to the extent that he receives, possesses, uses, transfers, owns or acquires radioactive material in individual quantities each of which does not exceed the applicable quantity set forth in NAC 459.188.

4. The provisions of NAC 459.180 to ~~[459.314,]~~ **459.313**, inclusive, *and sections 7, 8 and 9 of this regulation* do not authorize the production, packaging or repackaging of radioactive material for purposes of commercial distribution or the incorporation of radioactive material into products intended for commercial distribution.

5. A person shall not, for purposes of commercial distribution, transfer radioactive material in the individual quantities in NAC 459.188, knowing or having reason to believe that such quantities of radioactive material will be transferred to persons exempt under subsections 3 and 4

or the equivalent regulations of the Nuclear Regulatory Commission or any agreement state, except in accordance with a specific license issued by the Nuclear Regulatory Commission pursuant to 10 C.F.R. § 32.18 or by the Division pursuant to NAC 459.278. The license must state that the radioactive material may be transferred by the licensee to persons exempt under subsections 3 and 4 or the equivalent regulations of the Nuclear Regulatory Commission or any agreement state.

Sec. 29. 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 3 to 9, 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) 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 more than 1 millicurie (37 megabecquerels) of tritium per balance or 0.5 millicurie (18.5 megabecquerels) of tritium per balance part.

(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.

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

(g) 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) Ionizing radiation measuring instruments containing, for purposes of internal calibration or standardization, a source of radioactive material not exceeding the applicable quantity in NAC 459.188.

2. For the purposes of NAC 459.180 to ~~[459.314,]~~ **459.313**, inclusive, *and sections 7, 8 and 9 of this regulation*, 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) 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.

Sec. 30. 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 3 to 9, 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 3 to 9, inclusive, of this regulation* to the extent that he receives, possesses, uses, transfers or owns articles containing less than 0.1 microcurie (3.7 kilobecquerels) of radium 226 which were acquired before February 28, 1980.

3. Except for persons who manufacture, process or produce gas and aerosol detectors containing radioactive material, any person is exempt from the provisions of NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, 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 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 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 ~~459.314,~~ **459.313**, inclusive, **and sections 7, 8 and 9 of this regulation** 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 this subsection relieves 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 3 to 9, 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. §§ 32.16 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. 31. NAC 459.194 is hereby amended to read as follows:

459.194 Licenses for radioactive materials are of two types:

1. General licenses which grant authority to persons for certain activities involving radioactive materials and are effective without the filing of applications with the Division or the issuance of licensing documents to the particular persons, although the filing of a certificate with

the Division may be required by the particular general license. Except as otherwise provided in the specific provisions of a general license, including, without limitation, a provision concerning NAC 459.357, a general license is subject to all other applicable portions of these regulations and any limitations of the general license.

2. Specific licenses which are issued by the Division to a named person who files an application for a license pursuant to the provisions of NAC 459.180 to ~~459.314, inclusive.~~ *459.313, inclusive, and sections 7, 8 and 9 of this regulation.* A specific license is subject to all applicable portions of these regulations as well as any limitations specified in the licensing document.

Sec. 32. NAC 459.1955 is hereby amended to read as follows:

459.1955 1. A plan for financing decommissioning, as described in subsection 10, must be submitted by each applicant for a license authorizing the possession and use of:

(a) Unsealed radioactive materials with a half-life of more than 120 days in quantities that exceed 10^5 times the applicable quantities set forth in NAC 459.362; or

(b) The involvement of a combination of radionuclides when R divided by 10^5 is greater than 1.

2. A plan for financing decommissioning, as described in subsection 10, must be submitted by each licensee who is authorized to possess and use, and each applicant for a specific license authorizing the possession and use of:

(a) Sealed sources of radioactive material or plated foils of radioactive material with a half-life of more than 120 days in quantities that exceed 10^{12} times the applicable quantities set forth in NAC 459.362; or

(b) The involvement of a combination of isotopes when R divided by 10^{12} is greater than 1.

3. Each applicant for a specific license that authorizes the possession and use of radioactive material with a half-life of more than 120 days and in the quantities set forth in subsection 9

~~shall~~ *must* submit:

(a) A plan for financing decommissioning as described in subsection 10; or

(b) A certification which sets forth that financial assurance for decommissioning:

(1) Has been provided in the amount required by subsection 9 using one of the methods set forth in subsection 11; or

(2) Will be provided after the application has been approved and the license issued, but before the receipt of any licensed material by the licensee.

4. If an applicant:

(a) Defers the execution of the financial instrument until after the license has been issued pursuant to subparagraph (2) of paragraph (b) of subsection 3, the applicant ~~shall~~ *must* submit to the Division as part of the certification a signed original of the financial instrument used to comply with subsection 11 before the receipt of any licensed material.

(b) Does not defer the execution of the financial instrument until after the license has been issued, the applicant ~~shall~~ *must* submit to the Division as part of the certification a signed original of the financial instrument used by the applicant to comply with subsection 11.

5. An applicant for a specific license of the type described in subsection 1 or 3 ~~shall~~ *must* submit a plan for financing decommissioning or a certification of financial assurance for decommissioning with his application.

6. The holder of a specific license that is issued before January 26, 1999, and:

(a) Of a type described in subsection 1, shall submit a plan for financing decommissioning or a certification of financial assurance for decommissioning in an amount not less than \$1,125,000.

If a certification of financial assurance is submitted, the licensee shall include a plan for financing decommissioning in an application for renewal of the license.

(b) Of a type described in subsection 3, shall submit a plan for financing decommissioning or a certification of financial assurance for decommissioning.

7. A licensee who has submitted an application for renewal of his license before January 26, 1999, in accordance with NAC 459.202, shall:

(a) Provide financial assurance for decommissioning in accordance with subsections 1 and 3; and

(b) Submit a plan for financing decommissioning.

8. Waste collectors and waste processors, as defined in Appendix G, shall:

(a) Provide financial assurance for decommissioning in an amount based on a plan for financing decommissioning as described in subsection 10; and

(b) Submit a plan for financing decommissioning which must include, without limitation:

(1) The cost of disposal of the maximum amount, measured in curies, of radioactive material permitted by the license;

(2) The cost of disposal of the maximum quantity, measured by volume, of radioactive material which could be present at the licensee's facility at any time; and

(3) The cost to remediate the licensee's site to meet the license termination criteria set forth in NAC 459.200.

9. Financial assurance for decommissioning must be provided in accordance with the following amounts:

(a) Not less than \$1,125,000 is required if:

(1) The amount of radioactive material is greater than 10^4 , but less than or equal to 10^5 times the applicable quantities described in NAC 459.362, in unsealed form; or

(2) R, for a combination of radionuclides, divided by 10^4 is greater than 1 but R divided by 10^5 is less than or equal to 1.

(b) Not less than \$225,000 is required if:

(1) The amount of radioactive material is greater than 10^3 , but less than or equal to 10^4 times the applicable quantities described in NAC 459.362, in unsealed form; or

(2) R, for a combination of radionuclides, divided by 10^3 is greater than 1 but R divided by 10^4 is less than or equal to 1.

(c) Not less than \$113,000 is required if:

(1) The amount of radioactive material is greater than 10^{10} times the applicable quantities described in NAC 459.362, in sealed sources or plated foils; or

(2) R, for a combination of radionuclides, divided by 10^{10} is greater than 1.

10. The plan for financing decommissioning must contain the following:

(a) An estimate of the costs of decommissioning the facility based on the decommissioning plan;

(b) A description of the method of assuring financing for decommissioning in compliance with subsection 11;

(c) A schedule for adjusting the estimate of costs, which estimates of costs must be adjusted at least every 3 years, and associated levels of funding periodically over the life of the facility;
and

(d) A certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning and a signed original of the financial instrument used to satisfy the requirements of subsection 11.

11. Financial assurance for decommissioning must be provided by one or more of the following methods:

(a) Prepayment in the form of a deposit of an amount of money in cash or liquid assets that would be sufficient to pay the costs of decommissioning before starting operations at the facility into an account segregated from the assets of the licensee and outside the administrative control of the licensee. Prepayment may be in the form of a trust, escrow account, government fund, certificate of deposit or deposit of government securities.

(b) Provision of a surety that assures that the costs of decommissioning will be paid should the licensee fail to do so. A guarantee of money from a parent company of the licensee for the cost of decommissioning that is based on a financial test may be used if the guarantee and test meet the criteria set forth in subsection 14. Such a guarantee may not be used in combination with any other method of financing to satisfy the requirements of this subsection. A guarantee of money by the applicant or licensee for the cost of decommissioning that is based on a financial test may be used if the guarantee and test meet the criteria set forth in subsection 14. Such a guarantee must not be used in combination with any other method of financing to satisfy the requirements of this subsection or if the applicant or licensee has a parent company that holds a majority control of the voting stock of the applicant or licensee. Any surety used to provide financial assurance for decommissioning must contain the following conditions:

(1) The surety must be open-ended or, if written for a specified term, must be renewed automatically unless 90 days or more before the renewal date the issuer notifies the Division, the

beneficiary and the licensee of his intention not to renew. The surety must provide that the full-face amount will be paid to the beneficiary automatically before the expiration without proof of forfeiture if the licensee fails to provide a replacement acceptable to the Division within 30 days after receipt of notification of the cancellation.

(2) The surety must be payable to a trust established for the costs of decommissioning the facility. The trustee and trust must be approved by the Division. The Division will approve as a trustee an appropriate agency of the State or Federal Government or an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by an agency of the State or Federal Government.

↪ A licensee shall maintain the surety in effect until the Division has terminated his license.

(c) Provision of an external sinking fund in which deposits are made at least annually, coupled with a surety issued in compliance with the provisions of paragraph (b) except that the value of the surety may decrease by the amount being accumulated in the external sinking fund.

(d) If the licensee is a federal, state or local governmental agency, a statement of intent containing an estimate of the costs of decommissioning or an amount required by subsection 9 and an indication that money for decommissioning will be obtained when necessary.

12. A person licensed pursuant to NAC 459.180 to ~~459.314,~~ **459.313**, inclusive, *and sections 7, 8 and 9 of this regulation* shall maintain the following records in an identified location until the site is released for unrestricted use:

(a) Records of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment or site. Such records must include, without limitation, the name, quantity, form and concentration of a nuclide involved in the spill or unusual occurrence.

(b) Drawings and other documents relating to:

(1) The modification of structures and equipment in restricted areas where radioactive materials are used and stored; and

(2) Locations where it is possible that contamination which is inaccessible has occurred, including, without limitation, areas of seepage into concrete and other porous materials.

(c) A list of all the areas:

(1) Designated and formerly designated as restricted areas;

(2) Outside of restricted areas that require documentation pursuant to paragraph (a);

(3) Outside of restricted areas where waste has been buried; and

(4) Outside of restricted areas which contain material that, if the license expired, the licensee would be required to decontaminate the area to unrestricted release levels or apply for approval for disposal pursuant to NAC 459.3595.

↪ If records important to the decommissioning of a facility are kept for other purposes, reference to these records and their locations may be used.

13. Before licensed activities are transferred or assigned pursuant to subsection 2 of NAC 459.198, the licensee must transfer all the records described in paragraphs (a), (b) and (c) of subsection 12 to the licensee to whom the activities have been transferred or assigned. Such records become, upon receipt, the responsibility of the licensee to whom the activities have been transferred or assigned and must be retained by that licensee until its license is terminated.

14. To pass the financial test referred to in subsection 11:

(a) A parent company must have:

(1) Two of the following three ratios:

(I) A ratio of total liabilities to net worth that is less than 2;

(II) A ratio of the sum of net income plus depreciation, depletion and amortization to total liabilities that is more than 0.1; and

(III) A ratio of current assets to current liabilities that is more than 1.5;

(2) Net working capital and tangible net worth that are each at least six times the current cost estimates for decommissioning or, if certification is used, the amount set forth in subsection 9; and

(3) Assets located in the United States that amount to at least 90 percent of the total assets of the parent company or at least six times the cost estimate for decommissioning or, if certification is used, the amount set forth in subsection 9; or

(b) A parent company must have:

(1) A rating for its most recent bond issuance of AAA, AA, A or BBB as issued by Standard and Poor's Ratings Services or a rating of Aaa, Aa, A or Baa as issued by Moody's Investors Service, Inc.;

(2) Tangible net worth of at least six times the current cost estimate for decommissioning, or, if a certification is used, the amount set forth in subsection 9; and

(3) Assets located in the United States that amount to at least 90 percent of the total assets of the parent company or at least six times the cost estimate for decommissioning.

15. The terms of a guarantee of a parent company must provide that:

(a) The guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the licensee and the Division. The guarantee may not be cancelled until 120 days after the date the notice of cancellation is received by both the licensee and the Division, as evidenced by the return receipts.

(b) If the licensee fails to provide alternate financial assurance as specified in this section within 90 days after receipt by the licensee and the Division of a notice of cancellation of the guarantee from the guarantor, the guarantor must provide such alternate financial assurance in the name of the licensee.

(c) The guarantee and financial test provisions set forth in subsection 14 must remain in effect until the Division has terminated the license.

(d) If a trust is established for the costs of decommissioning, the trustee and trust must be acceptable to the Division. An acceptable trustee includes an appropriate state or federal agency or an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

16. A licensee who guarantees the costs of decommissioning must have:

(a) A tangible net worth of at least 10 times the total estimated cost of decommissioning or the current amount required for decommissioning;

(b) Assets located in the United States that amount to at least 90 percent of its total assets or at least 10 times the cost estimate for decommissioning;

(c) A rating for its most recent bond issuance of AAA, AA or A as issued by Standard and Poor's Ratings Services or a rating of Aaa, Aa or A as issued by Moody's Investors ~~Services,~~ *Service, Inc.*; and

(d) At least one class of equity securities registered pursuant to the Securities Exchange Act of 1934.

17. A licensee shall ensure that a certified public accountant who is independent of the licensee compares the data used to satisfy the financial test as set forth in subsections 14 and 16. The data must be derived from audited, year-end financial statements for the last fiscal year. A

licensee shall inform the Division within 90 days after matters which cause the certified public accountant to believe that the data used to satisfy the financial test should be adjusted and that the licensee or parent company, as applicable, can no longer pass the test. After the initial financial test, the licensee or parent company, as applicable, shall repeat the test within 90 days after the close of each fiscal year. If the parent company can no longer pass the test, the licensee ~~must~~ shall notify the Division of its intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the close of the fiscal year. The licensee shall provide alternate financial assurance within 120 days after the close of such fiscal year.

18. If a bond issuance of the licensee or parent company, as applicable, ceases to be rated in a category of A or above by either Standard and Poor's Ratings Services or Moody's Investors ~~Services,~~ Service, Inc., the licensee ~~must~~ shall notify the Division in writing within 20 days after the rating. If the bond issuance ceases to be rated in a category of A or above by both Standard and Poor's Ratings Services and Moody's Investors ~~Services,~~ Service, Inc., the licensee or parent company, as applicable, no longer meets the financial test as set forth in subsection 14.

19. The licensee shall provide to the Division a written guarantee or commitment by a corporate officer which provides that the licensee will fund and complete the decommissioning of the facility or, upon issuance of an order by the State Board of Health, the licensee ~~must~~ shall establish a trust in the amount of the current cost estimates for decommissioning.

20. As used in this section:

(a) "External sinking fund" means a fund established and maintained by depositing money periodically in an account segregated from the licensee's assets and outside the licensee's

administrative control in which the total amount of money to be accumulated before the termination of the operation is expected is sufficient to pay the costs of decommissioning. The term includes, without limitation, a trust, escrow account, government fund, certificate of deposit or deposit of government securities.

(b) “R” equals the sum of the ratios of the quantity of each radionuclide to the applicable value as set forth in NAC 459.362.

(c) “Surety” includes, without limitation, a trust fund, surety bond, letter of credit, line of credit, insurance, guarantee of performance or, except as otherwise provided in this section, any combination thereof.

Sec. 33. NAC 459.196 is hereby amended to read as follows:

459.196 1. Upon a determination that an application meets the requirements of chapter 459 of NRS and the regulations of the Division, the Division will issue a specific license authorizing the proposed activity in a form and containing such conditions and limitations as it deems appropriate or necessary.

2. The Division may incorporate in any license at the time of issuance additional requirements and conditions with respect to the licensee’s receipt, possession, use and transfer of radioactive material subject to NAC 459.180 to ~~[459.314,]~~ **459.313**, inclusive, *and sections 7, 8 and 9 of this regulation* as it deems appropriate or necessary in order to:

- (a) Minimize danger to public health and safety or property;
- (b) Require such reports and the keeping of such records, and to provide for such inspections of activities under the licenses as may be appropriate or necessary; and
- (c) Prevent loss or theft of material subject to NAC 459.180 to ~~[459.314, inclusive.]~~ **459.313**, *inclusive, and sections 7, 8 and 9 of this regulation.*

Sec. 34. 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 7, 8 and 9 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 7, 8 and 9 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 7, 8 and 9 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 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 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 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 ~~material~~ *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, *and sections 7, 8 and 9 of this regulation* 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.

Sec. 35. NAC 459.210 is hereby amended to read as follows:

459.210 1. Subject to the provisions of NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation*, a person who holds a specific license from the Nuclear Regulatory Commission or an agreement state issued by the agency having jurisdiction where the licensee maintains an office for directing the licensed activity and at which radiation safety records are normally maintained is hereby granted a general license to conduct within this State the activities authorized in the specific license for a period not in excess of 180 days in any calendar year provided that:

(a) The specific license does not limit the activity authorized by the specific license to specified installations or locations.

(b) The out-of-state licensee notifies the Division in writing at least 3 business days before engaging in the proposed activity and receives written permission from the Division to proceed with the proposed activity. The notification must indicate the location, period and type of proposed possession and use within the State, and must be accompanied by a copy of the specific license. If, for a specific case, the 3-day period would impose an undue hardship on the out-of-state licensee, he may apply to the Division and obtain written permission to proceed sooner. The Division may waive the requirement for filing additional written notifications during the remainder of the calendar year following the receipt of the initial notification from a person engaging in activities under the general license.

(c) The out-of-state licensee complies with all applicable regulations of the Division and with all the terms and conditions of his specific license, except any terms and conditions which may be inconsistent with applicable regulations of the Division.

(d) The out-of-state licensee supplies such other information as the Division may request.

(e) The out-of-state licensee ~~must~~ *shall* not transfer or dispose of radioactive material possessed or used under the general license provided in this section except by transfer to a person:

(1) Specifically licensed by the Division or by the Nuclear Regulatory Commission to receive such material; or

(2) Exempt from the requirements for a license for such material pursuant to NAC 459.184.

2. A licensee must determine the jurisdiction of a temporary job site at a federal facility before radioactive materials may be used at the temporary job site. If the jurisdiction is unknown, the licensee must contact the federal agency to determine whether the job site is under exclusive federal jurisdiction. The jurisdiction of the job site must be obtained in writing from the federal agency, or the name and title of the person at the federal agency who provided the determination must be recorded along with the date of the determination.

3. Before a licensee may use radioactive material at a temporary job site in another state or at a federal facility, the licensee must obtain authorization, if the job site is:

(a) In another state, from:

(1) That state, if that state is an agreement state; or

(2) The Nuclear Regulatory Commission, by filing for reciprocity or a specific license, if the state is not an agreement state or the job site is within an area of exclusive federal jurisdiction.

(b) At a federal facility, from the Nuclear Regulatory Commission by:

(1) Filing an NRC Form 241 in accordance with 10 C.F.R. § 150.20(b), as those provisions existed on January 26, 1999; or

(2) Filing for a specific license.

4. Any person who holds a specific license issued by the Nuclear Regulatory Commission or an agreement state authorizing the holder to manufacture, transfer, install or maintain a device described in NAC 459.216 within areas subject to the jurisdiction of the licensing body is hereby granted a general license to install, transfer, demonstrate or maintain such a device in this State provided that:

(a) ~~[Such]~~ *The* person shall file a report with the Division within 30 days after the end of each calendar quarter in which any *such* device is transferred to or installed in this State. Each such report must identify each general licensee to whom ~~[such]~~ *the* device is transferred by name and address, the type of device transferred and the quantity and type of radioactive material contained in the device;

(b) The device has been manufactured, labeled, installed and maintained in accordance with applicable provisions of the specific license issued to ~~[such]~~ *the* person by the Nuclear Regulatory Commission or an agreement state;

(c) ~~[Such]~~ *The* person must ~~[assure]~~ *ensure* that any labels required to be affixed to the device under regulations of the authority which licensed manufacture of the device bear a statement that: "Removal of this label is prohibited"; and

(d) The holder of the specific license must furnish to each general licensee to whom he transfers ~~[such]~~ *the* device or on whose premises he installs such device a copy of the general license contained in NAC 459.216.

5. The Division may withdraw, limit or qualify its acceptance of any specific license or equivalent licensing document issued by another agency, or any product distributed pursuant to the licensing document, upon determining that such action is necessary in order to prevent undue hazard to public health and safety or property.

Sec. 36. NAC 459.212 is hereby amended to read as follows:

459.212 1. A general license is issued authorizing the use and transfer of not more than 15 pounds of source material at any one time by persons in the following categories:

- (a) Pharmacists using the source material solely for the compounding of medicinals;
- (b) Physicians using the source material for medicinal purposes;
- (c) Persons receiving possession of source material from pharmacists and physicians in the form of medicinals or drugs;
- (d) Commercial and industrial firms, and research, educational and medical institutions for research, development, educational or commercial purposes; and
- (e) If the person so licensed does not receive more than a total of 150 pounds of source material in any 1 calendar year.

2. A person who receives, possesses, uses or transfers source material pursuant to the general license issued under this section is exempt from the provisions of NAC 459.320 to 459.374, inclusive, and 459.780 to 459.794, inclusive, to the extent that the activities are within the terms of the general license. This exemption does not apply to any person who also possesses

source material under a specific license issued pursuant to NAC 459.180 to ~~459.314, inclusive.~~
459.313, inclusive, and sections 7, 8 and 9 of this regulation.

3. A general license is also issued authorizing the receipt of title to source material without regard to quantity. This general license does not authorize any person to receive, possess, use or transfer source material.

Sec. 37. NAC 459.214 is hereby amended to read as follows:

459.214 1. A general license is issued to transfer, receive, acquire, own, possess and use radioactive material incorporated in the following devices or equipment which have been manufactured, tested and labeled by the manufacturer in accordance with a specific license issued to the manufacturer by the Nuclear Regulatory Commission for use pursuant to 10 C.F.R. § 31.3. This general license is subject to the provisions of NAC 459.124 to 459.134, inclusive, subsection 2 of NAC 459.184, NAC 459.198, 459.208, 459.312 ~~[, 459.314,]~~ and 459.320 to 459.374, inclusive, relating to the labeling of containers, and NAC 459.780 to 459.794, inclusive.

2. The devices included in this license are:

(a) Devices designed for use as static eliminators which contain, as a sealed source or sources, radioactive material consisting of a total of not more than 500 microcuries of polonium 210 per device; and

(b) Devices designed for ionization of air which contain, as a sealed source or sources, radioactive material consisting of a total of not more than 500 microcuries of polonium 210 per device or a total of not more than 50 millicuries of hydrogen 3 (tritium) per device.

Sec. 38. 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~~ **and** 459.313 . ~~and 459.314.~~

Sec. 39. NAC 459.220 is hereby amended to read as follows:

459.220 1. A general license is issued to own, receive, acquire, possess and use tritium or promethium 147 contained in luminous safety devices for use in aircraft, if:

(a) Each device contains not more than 10 curies of tritium or 300 millicuries of promethium 147; and

(b) Each device has been manufactured, assembled or imported in accordance with a specific license issued by the Nuclear Regulatory Commission, or each device has been manufactured or assembled in accordance with the specifications contained in a specific license issued by the Division or any agreement state to the manufacturer or assembler of such device pursuant to licensing requirements equivalent to those in 10 C.F.R. § 32.53 of the regulations of the Nuclear Regulatory Commission.

2. Persons who own, receive, acquire, possess or use luminous safety devices pursuant to the general license in subsection 1 are exempt from the requirements of NAC 459.320 to 459.374, inclusive, and 459.780 to 459.794, inclusive, except that they shall comply with the provisions of NAC 459.369 and 459.3695.

3. This general license does not authorize:

(a) The manufacture, assembly or repair of luminous safety devices containing radioactive material.

(b) The ownership, receipt, acquisition, possession or use of promethium 147 contained in instrument dials.

4. This general license is subject to the provisions of NAC 459.124 to 459.134, inclusive, 459.198, 459.208 ~~[, 459.312 and 459.314.]~~ and 459.312.

Sec. 40. 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 ~~(c)~~ (d) of subsection 5 apply only to calibration or reference sources which have been manufactured 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, ~~459.314,~~ 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 ~~[459.314, inclusive:]~~ *459.313, inclusive, and sections 7, 8 and 9 of this regulation:*

(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:

~~[(1)]~~ 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

~~[(2) The label must show]~~

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

~~(d)~~ *(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)~~ *(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)~~ *(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. 41. NAC 459.232 is hereby amended to read as follows:

459.232 1. A general license is issued to own, receive, acquire, possess, use and transfer strontium 90 contained in ice detection devices, if each device contains not more than 50 microcuries of strontium 90 and each device has been manufactured or imported in accordance with a specific license issued by the Nuclear Regulatory Commission or each device has been manufactured in accordance with the specifications contained in a specific license issued by the Division of any agreement state to the manufacturer of a device pursuant to licensing requirements equivalent to those in 10 C.F.R. § 32.61 of the regulations of the Nuclear Regulatory Commission.

2. Persons who own, receive, acquire, possess, use or transfer strontium 90 contained in ice detection devices pursuant to the general license in subsection 1:

(a) Shall, upon occurrence of visually observable damage, such as a bend or crack or discoloration from overheating to the device, discontinue use of the device until it has been inspected, tested for leakage and repaired by a person holding a specific license from the Division, the Nuclear Regulatory Commission or an agreement state to manufacture or service such devices ~~;~~ or shall dispose of the device pursuant to the provisions of NAC 459.3355 and 459.359 to 459.3615, inclusive;

(b) Shall ~~assure~~ *ensure* that all labels affixed to the device at the time of receipt, and which bear a statement which prohibits removal of the labels, are maintained; and

(c) Are exempt from the requirements of NAC 459.320 to 459.374, inclusive, and 459.780 to 459.794, inclusive, except that the persons shall comply with the provisions of NAC 459.3355, 459.359 to 459.3615, inclusive, 459.369 and 459.3695.

3. This general license does not authorize the manufacture, assembly, disassembly or repair of strontium 90 in ice detection devices.

4. This general license is subject to the provisions of NAC 459.124 to 459.134, inclusive, 459.198, 459.208 ~~[, 459.312 and 459.314.]~~ *and 459.312.*

Sec. 42. NAC 459.238 is hereby amended to read as follows:

459.238 1. An application for a license will be approved if the Division determines that:

(a) The applicant is qualified by reason of training and experience to use the material in question for the purpose requested in accordance with the provisions of NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation* in a manner to minimize danger to public health and safety or property;

(b) The applicant's proposed equipment, facilities and procedures are adequate to minimize danger to public health and safety or property;

(c) The issuance of the license will not be inimical to the health and safety of the public; and

(d) The applicant satisfies any applicable special requirements in NAC ~~[459.240]~~ **459.2434** to 459.307, inclusive.

2. The Division will deny an application for a license if the Division determines that:

(a) The issuance of the license would be inimical to the health and safety of the public;

(b) The applicant does not satisfy the requirements of paragraph (a), (b) or (d) of subsection 1; or

(c) The applicant has held a license authorizing a similar use of radioactive material issued by the Division or by the appropriate licensing agency in another jurisdiction and the license has either been revoked or the licensee has been cited for a violation, which the Division deems significant, of a regulation relating to matters of health and safety.

Sec. 43. NAC 459.262 is hereby amended to read as follows:

459.262 1. NAC 459.180 to 459.274, inclusive, ***and sections 7, 8 and 9 of this regulation,*** prescribes requirements for the issuance of specific licenses of broad scope for radioactive material, called “broad licenses” herein, and regulations governing holders of the licenses.

2. 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, Washington, D.C. 20555.

Sec. 44. 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 ~~[459.240 to]~~ **459.2434**, 459.2565 ~~[-, inclusive,]~~ 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, **and sections 7, 8 and 9 of this regulation** 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. 45. 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 licensed for medical use pursuant to NAC 459.240 or 459.242, or]~~ 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 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.

(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 of this section relieves 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. 46. NAC 459.302 is hereby amended to read as follows:

459.302 An application for a specific license to manufacture and distribute generators or reagent kits containing radioactive material for preparation of radioactive drugs ~~by persons licensed for human use pursuant to NAC 459.240 or 459.242 or~~ by persons authorized under a license issued by the Nuclear Regulatory Commission or any other agreement state will be approved if:

1. The applicant satisfies the general requirements specified in NAC 459.238;
2. The applicant submits evidence that:

(a) The generator or reagent kit is to be manufactured, labeled and packaged in accordance with the Federal Food, Drug and Cosmetic Act or the Public Health Act, such as a new drug application approved by the Food and Drug Administration, a biologic product license issued by the Administration, or a Notice of Claimed Investigational Exemption for a New Drug that has been accepted by the Administration; or

(b) The manufacture and distribution of the generator or reagent kit are not subject to the Federal Food, Drug and Cosmetic Act and Public Health Service Act;

3. The applicant submits information on the radionuclide, chemical, and physical form, packaging, including maximum activity per package, and shielding provided by the packaging of the radioactive material contained in the generator or reagent kit;

4. The label affixed to the generator or reagent kit contains information on the radionuclide, quantity [X] and date of assay; and

5. The label affixed to the generator or reagent kit, or the leaflet or brochure which accompanies the generator or reagent kit, contains:

(a) Adequate information from a radiation safety standpoint on the procedures to be followed and the equipment and shielding to be used in eluting the generator or processing radioactive material with the reagent kit; and

(b) A statement that this generator or reagent kit is approved for use by persons licensed by ~~the Division pursuant to NAC 459.240 or 459.242 or under equivalent licenses of~~ the Nuclear Regulatory Commission or an agreement state. The labels, leaflets [X] or brochures required by this paragraph are in addition to the labeling required by the Administration, and they may be separate from or, with the approval of the ~~administration,~~ *Administration*, may be combined with the labeling required by the Administration.

Sec. 47. NAC 459.304 is hereby amended to read as follows:

459.304 Although the Division does not regulate the manufacture and distribution of reagent kits that do not contain radioactive material, it does regulate the use of such reagent kits for the preparation of radioactive drugs containing radioactive material as part of its licensing and regulation of the users of radioactive material. Any resident manufacturer of reagent kits not containing radioactive material who desires to have his reagent kits approved by the Division ~~[[for use by persons licensed for medical use pursuant to NAC 459.240 or 459.242]]~~ may submit the pertinent information specified in NAC 459.302.

Sec. 48. 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 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, ~~these~~ *which* instructions ~~are to~~ *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 ~~is~~ *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. 49. 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, are hereby adopted by reference, subject to the following:

- (a) 10 C.F.R. §§ 35.8, 35.4001 and 35.4002 are not adopted by reference.
- (b) Except as otherwise provided in this chapter, the implementation date described 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 in 10 C.F.R. § 35.57(a)(1) shall be deemed to mean November 13, 2006.
- (d) 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 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 ~~459.314, inclusive.~~ **459.313, inclusive, and sections 7, 8 and 9 of this regulation.**”
- (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 71,” “10 CFR Part 71,” “10 CFR 71.5,” “§ 71.5,” or “49 CFR Parts 171-73” shall be deemed to mean “NAC 459.314.”~~

~~(15)~~ (15) “10 CFR Part 170,” “10 CFR 170,” “10 CFR Part 171” or “10 CFR 171” shall be deemed to mean “NAC 459.310.”

~~(16)~~ (15) “Byproduct material” shall be deemed a reference to “radioactive material.”

~~(17)~~ (16) “Commission” or “NRC” shall be deemed a reference to “Division.”

~~(18)~~ (17) “Commission’s regulations,” “federal regulations” or “NRC regulations” shall be deemed a reference to “NAC 459.010 to 459.950, inclusive.”

~~(19)~~ (18) “NRC Form 313” shall be deemed a reference to “NRC Form 5,” Application for Radioactive Material License, described in NAC 459.2434.

~~(20)~~ (19) “NRC license” shall be deemed a reference to “license issued by the Division pursuant to NAC 459.010 to 459.950, inclusive.”

~~(21)~~ (20) “NRC Operations Center” 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.”

~~(22)~~ (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.”

(e) 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 from the Superintendent of Documents, United States Government Printing Office, Washington, D.C. 20402-9325, at a cost of \$61, or free of charge at the Internet address .

Sec. 50. NAC 459.310 is hereby amended to read as follows:

459.310 Except as otherwise provided in NAC 459.203, the Division will not issue a new specific license or a renewed specific license to a person until the appropriate nonrefundable fee has been paid to the Division, as prescribed in the following table:

| Material and use | Fee |
|--|-------------------------------------|
| 1. Special nuclear material: | |
| (a) As sealed source | \$2,000 |
| (b) In unsealed form..... | 2,000 |
| 2. Source materials for other than milling operations..... | [\$2,000] \$2,200 |
| 3. By-product material, artificially produced radioactive material and radium: | |
| (a) Manufacturing or distribution, or both | [\$2,000] \$2,200 |
| (b) Nuclear pharmacy | [\$6,000] 6,600 |
| (c) Industrial radiography | [\$5,000] 5,500 |
| (d) Category 1 (<i>self-shielded</i>) irradiator | [\$1,500] 1,650 |
| (e) Academic, broad scope..... | [\$8,000] 8,800 |
| (f) Academic, other research and development | [\$1,200] 1,320 |
| (g) Service or laboratory | [\$1,600] 1,760 |

| Material and use | Fee |
|--|-------------------------------|
| (h) Fixed gauge | 1,000 1,100 |
| (i) Gas chromatograph | 450 496 |
| (j) In vitro..... | 95 105 |
| (k) Portable gauge or X-ray fluorescence analyzer | 1,200 1,320 |
| (l) All other uses of source material, special nuclear material, by product material and radium radioactive material except those set forth in subsections 4 to 8, inclusive | 1,000 |
| 4. Well logging | 3,000 3,300 |
| 5. Medical use or veterinary use of radioactive material: | |
| (a) Medical use or veterinary use only | 4,000 4,400 |
| (b) With teletherapy | 4,000 |
| (c) With high dose remote afterloader | 4,000 |
| (d) With brachytherapy | 4,000 |
| (e) Teletherapy only | 4,000 |
| (f) High dose remote afterloader only | 4,000 |
| (g) Brachytherapy only | 4,000 |
| (h) (b) General license for in vitro use | 115 125 |
| 6. Civil defense | 250 276 |
| 7. Registration of devices generally licensed pursuant to paragraph (a) of subsection 12 of NAC 459.218..... | \$250 |

Material and use

Fee

8. Any use of ~~[source material, special nuclear material, by-product material or radium]~~ *radioactive material* by a person who holds a *specific* license issued by the Nuclear Regulatory Commission or any agreement state. See appropriate fee category above

Sec. 51. NAC 459.312 is hereby amended to read as follows:

459.312 1. A licensee may transfer radioactive material only as authorized in this section.

2. Except as otherwise provided in his license and subject to the provisions of subsections 3 and 4, any licensee may transfer radioactive material:

(a) To the Division but only after receiving prior approval from the Division;

(b) To the United States Department of Energy;

(c) To any person exempt from the provisions of NAC 459.180 to ~~[459.314,]~~ *459.313*, inclusive, *and sections 7, 8 and 9 of this regulation* to the extent permitted under the exemption;

(d) To any person authorized to receive the material under terms of a general license or its equivalent, or a specific license or equivalent licensing document, issued by the Division, the Nuclear Regulatory Commission ~~[]~~ or any agreement state, or to any person otherwise authorized to receive material by the Federal Government or any agency thereof, the Division or any agreement state; or

(e) As otherwise authorized by the Division in writing.

3. Before transferring radioactive material to a specific licensee of the Division, the Nuclear Regulatory Commission, an agreement state, or to a general licensee who is required to register with the Nuclear Regulatory Commission or an agreement state before receipt of the radioactive material, the licensee transferring the material shall verify that the transferee's license authorizes the receipt of the type, form and quantity of radioactive material to be transferred.

4. The following methods for the verification required by subsection 3 are acceptable:

(a) The transferor may have in his possession, and read, a current copy of the transferee's specific license or registration certificate;

(b) The transferor may have in his possession a written certification by the transferee that he is authorized by license or registration certificate to receive the type, form and quantity of radioactive material to be transferred, specifying the license or registration certificate number, issuing agency and expiration date;

(c) For emergency shipments, the transferor may accept oral certification confirmed in writing within 10 days by the transferee that he is authorized by license or registration certificate to receive the type, form and quantity of radioactive material to be transferred, specifying the license or registration certificate number, issuing agency and expiration date;

(d) The transferor may obtain other sources of information compiled by a reporting service from official records of the Division, the Nuclear Regulatory Commission or the licensing agency of an agreement state as to the identity of licensees and the scope and expiration dates of licenses and registration; or

(e) When none of the methods of verification described in paragraphs (a) to (d), inclusive, are readily available or when a transferor desires to verify that information received by one of such methods is correct or up to date, the transferor may obtain and record confirmation from the

Division or the Nuclear Regulatory Commission, or the licensing agency of an agreement state, that the transferee is licensed to receive the radioactive material.

~~[5.—Preparation for shipment and transport of radioactive material must be in accordance with the provisions of NAC 459.314.]~~

Sec. 52. NAC 459.317 is hereby amended to read as follows:

459.317 1. Except as otherwise provided in subsection 2, the provisions of NAC 459.027, 459.200 and 459.316 to 459.3184, inclusive, apply to any facility licensed by the Division pursuant to NAC 459.010 to 459.950, inclusive ~~[]~~, *and sections 3 to 9, inclusive, of this regulation.*

2. A facility licensed by the Division pursuant to NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation* is not subject to the provisions of NAC 459.027, 459.200 and 459.316 to 459.3184, inclusive, if the facility:

(a) Has been decommissioned before May 30, 2003, pursuant to:

(1) The federal Site Decommissioning Management Plan of April 16, 1992, set forth at 57 Fed. Reg. 13,389; or

(2) Other criteria approved by the Division; or

(b) Submitted a decommissioning plan before August 20, 1998, that, except for any day-to-day extension granted by the Division for the submission of an environmental impact statement, was approved by the Division before August 20, 1999, pursuant to the federal Site Decommissioning Management Plan of April 16, 1992, set forth at 57 Fed. Reg. 13,389.

Sec. 53. NAC 459.3174 is hereby amended to read as follows:

459.3174 An applicant for any license issued by the Division pursuant to NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation*, except an applicant for the

renewal of a license, must describe in the application how facility design and procedures for operation will:

1. Minimize, to the extent practicable, the:
 - (a) Contamination of the facility and environment; and
 - (b) Generation of radioactive waste; and
2. Facilitate eventual decommissioning.

Sec. 54. NAC 459.321 is hereby amended to read as follows:

459.321 1. Each licensee and registrant shall:

(a) Develop, document and carry out a program for protection against radiation commensurate with the scope of its licensed or registered activities and sufficient to ensure compliance with the provisions of NAC 459.010 to 459.950, inclusive ~~1~~, *and sections 3 to 9, inclusive, of this regulation.*

(b) Use, to the extent practicable, procedures and engineering controls, based upon sound principles of protection against radiation, to achieve occupational doses and doses to members of the public that are as low as is reasonably achievable.

(c) Review, at intervals not to exceed 12 months, the content and implementation of the program for protection against radiation.

2. A licensee or registrant shall, to achieve doses to members of the public that are as low as is reasonably achievable pursuant to paragraph (b) of subsection 1, establish a constraint on air emissions to the environment of radioactive material, excluding radon 222 and its decay products, such that the individual member of the public likely to receive the highest dose from such emissions will not be expected to receive a total effective dose equivalent in excess of 10 millirems (0.1 millisievert).

3. A licensee or registrant that causes, permits or is otherwise responsible for air emissions of radioactive material to the environment that exceed the constraint established pursuant to subsection 2 shall:

- (a) Submit to the Division the report required by NAC 459.371; and
- (b) Promptly take appropriate corrective action to prevent any recurrence.

Sec. 55. NAC 459.3235 is hereby amended to read as follows:

459.3235 1. Except as otherwise provided in subsection 2, the quality factors for converting an absorbed dose to a dose equivalent are as follows:

Quality Factors and Absorbed Dose Equivalencies

| Type of Radiation | Quality Factor | Absorbed Dose Equal to a Unit Dose Equivalent |
|---|----------------|--|
| X, gamma, or beta radiation and high-speed electrons..... | 1 | 1 |
| Alpha particles, multiple-charged particles, fission fragments and heavy particles of unknown charge..... | 20 | 0.05 |

Quality Factors and Absorbed Dose Equivalencies

| Type of Radiation | Quality Factor | Absorbed Dose Equal to a Unit Dose Equivalent |
|----------------------------------|----------------|--|
| Neutrons of unknown energy | 10 | 0.1 |
| High-energy protons..... | 10 | 0.1 |

2. If it is more convenient to measure the neutron fluence rate than to determine the neutron dose equivalent rate in rems per hour, as provided in subsection 1, 1 rem of neutron radiation of unknown energies may, for the purposes of NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation*, be assumed to result from a total fluence of 25,000,000 neutrons per square centimeter incident upon the body. If sufficient information exists to estimate the approximate energy distribution of the neutrons, the licensee or registrant may use the fluence rate per unit dose equivalent or the appropriate quality factor value from the following table to convert a measured tissue dose in rads to dose equivalent in rem:

Mean Quality Factors and Fluence per Unit Dose

Equivalent for Monoenergetic Neutrons

| | Neutron Energy (MeV) | Quality Factor | Fluence per Unit Dose Equivalent (neutrons cm ² rem ⁻¹) |
|-----------|--------------------------------|-------------------|---|
| (thermal) | 2.5E-8 | 2 | 980E+6 |
| | 1E-7 | 2 | 980E+6 |
| | 1E-6 | 2 | 810E+6 |
| | 1E-5 | 2 | 810E+6 |
| | 1E-4 | 2 | 840E+6 |
| | 1E-3 | 2 | 980E+6 |
| | 1E-2 | 2.5 | 1010E+6 |
| | 1E-1 | 7.5 | 170E+6 |
| | 5E-1 | 11 | 39E+6 |
| | 1 | 11 | 27E+6 |
| | 2.5 | 9 | 29E+6 |
| | 5 | 8 | 23E+6 |
| | 7 | 7 | 24E+6 |
| | 10 | 6.5 | 24E+6 |
| | 14 | 7.5 | 17E+6 |
| | 20 | 8 | 16E+6 |
| | 40 | 7 | 14E+6 |

| Neutron Energy | Quality Factor | Fluence per Unit Dose Equivalent |
|----------------|----------------|----------------------------------|
| 60 | 5.5 | 16E+6 |
| 1E+2 | 4 | 20E+6 |
| 2E+2 | 3.5 | 19E+6 |
| 3E+2 | 3.5 | 16E+6 |
| 4E+2 | 3.5 | 14E+6 |

3. For the purposes of subsection 2, the quality factor must be measured at the point where the dose equivalent is maximum in a 30-centimeter diameter cylinder tissue-equivalent phantom.

Sec. 56. NAC 459.337 is hereby amended to read as follows:

459.337 1. Each licensee and registrant shall make, or cause to be made, surveys that:

(a) Are necessary for the licensee or registrant to comply with NAC 459.010 to 459.950, inclusive ~~§~~, *and sections 3 to 9, inclusive, of this regulation;* and

(b) Are necessary under the circumstances to evaluate:

- (1) The magnitude and extent of radiation levels;
- (2) Concentrations or quantities of radioactive material; and
- (3) The potential radiological hazards.

2. The licensee or registrant shall ensure that instruments and equipment used for quantitative radiation measurements are calibrated for the radiation measured at intervals not to exceed 12 months.

3. All personnel dosimeters, except for direct and indirect reading pocket ionization chambers and those dosimeters used to measure the dose to any extremity, that require processing to determine the dose of radiation and that are used by licensees and registrants to comply with NAC 459.325, with other applicable provisions of NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation* or with conditions specified in a license or registration ~~§~~ must be processed and evaluated by a dosimetry processor who is accredited by the National Voluntary Laboratory Accreditation Program of the National Institute of Standards and Technology for the type of radiation or radiations included in the program that most closely approximate the type of radiation for which the person wearing the dosimeter is monitored.

4. The licensee or registrant shall ensure that adequate precautions are taken to prevent a deceptive exposure of personnel monitoring equipment.

Sec. 57. NAC 459.339 is hereby amended to read as follows:

459.339 Each licensee and registrant shall monitor exposures from sources of radiation at levels sufficient to demonstrate compliance with the limits for occupational doses specified in NAC 459.010 to 459.950, inclusive ~~§~~, *and sections 3 to 9, inclusive, of this regulation*. As a minimum:

1. Each licensee and registrant shall monitor occupational exposure to radiation from licensed and unlicensed sources under the control of the licensee or registrant and shall supply and require the use of personnel monitoring equipment by:

(a) Adults who are likely to receive in 1 year, from sources of radiation external to the body, a dose in excess of 10 percent of the limits specified in NAC 459.325;

(b) Minors who are likely to receive in 1 year, from sources of radiation external to the body, a deep-dose equivalent in excess of 0.1 rem (1 millisievert), a lens dose equivalent in excess of 0.15 rem (1.5 millisieverts), or a shallow-dose equivalent to the skin or extremities in excess of 0.5 rem (5 millisieverts);

(c) Women who have declared their pregnancy and are likely to receive, during the entire pregnancy, from sources of radiation external to the body, a deep-dose equivalent in excess of 0.1 rem (1 millisievert); and

(d) Any person entering a high or very high radiation area.

2. Each licensee shall monitor, to determine compliance with NAC 459.3275, the occupational intake of radioactive material by and assess the committed effective dose equivalent to:

(a) Adults who are likely to receive, in 1 year, an intake in excess of 10 percent of the applicable annual limit on intake in columns 1 and 2 of table I of appendix B;

(b) Minors who are likely to receive, in 1 year, a committed effective dose equivalent in excess of 0.1 rem (1 millisievert); and

(c) Women who have declared their pregnancy and are likely to receive, during the entire pregnancy, a committed effective dose equivalent in excess of 0.1 rem (1 millisievert).

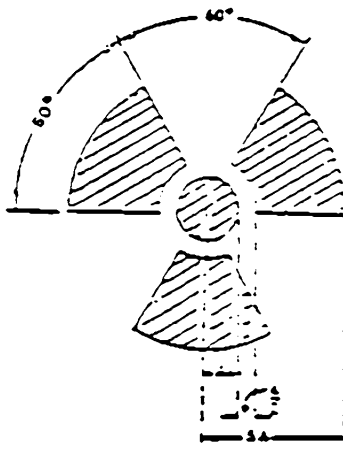
Sec. 58. NAC 459.355 is hereby amended to read as follows:

459.355 1. Except as otherwise provided in this section or as otherwise authorized by the Division, a licensee or registrant shall use a radiation symbol with a three-bladed design as follows:

(a) Each cross-hatched area must be magenta, purple or black; and

(b) The background must be yellow.

Radiation symbol



2. A licensee may label sources of radiation, holders for sources of radiation or device components containing sources of radiation that are subjected to high temperatures ☒ with conspicuously etched or stamped radiation symbols that do not comply with the requirements for color set forth in subsection 1.

3. In addition to the contents of signs and labels required by NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation*, a licensee or registrant shall provide, on or near the required signs and labels, additional information, as appropriate, to make persons aware of potential exposures and to minimize those exposures.

4. A radiation symbol or the labels described in NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation* must only be used when conditions exist that warrant their use.

Sec. 59. NAC 459.3575 is hereby amended to read as follows:

459.3575 A licensee is not required to label a container pursuant to NAC 459.357 if the container is:

1. Holding licensed radioactive material in quantities that are less than the quantities listed in Appendix C.
2. Holding licensed radioactive material in concentrations that are less than those specified in Table III of Appendix B.
3. Attended by a person who takes the precautions necessary to prevent the exposure of persons in excess of the limits established by NAC 459.010 to 459.950, inclusive ~~[H]~~, *and sections 3 to 9, inclusive, of this regulation.*
4. In transport and is packaged and labeled in accordance with the regulations of the United States Department of Transportation.
5. Accessible only to persons authorized to work in the vicinity of the container or authorized to handle or use the container, if the contents of the container are identified to those persons by a readily available written record which is retained while the container is in use for the purpose indicated on the record.
6. Installed manufacturing or process equipment.

Sec. 60. NAC 459.359 is hereby amended to read as follows:

- 459.359 1. A licensee shall dispose of licensed radioactive material only:
- (a) By transfer to an authorized recipient as provided in NAC 459.180 to ~~[459.314,]~~ **459.313**, inclusive, *and sections 7, 8 and 9 of this regulation*, and 459.8231 to 459.950, inclusive;
 - (b) By decay in storage;
 - (c) By release in effluents within the limits specified in NAC 459.335; or
 - (d) As authorized pursuant to NAC 459.3595 to 459.3615, inclusive.

2. A person must be licensed by the Division to receive waste containing licensed radioactive material from other persons for:
 - (a) Treatment before disposal;
 - (b) Treatment or disposal by incineration;
 - (c) Decay in storage;
 - (d) Disposal at a land disposal facility licensed pursuant to NAC 459.806 to 459.8225, inclusive; or
 - (e) Storage until it is transferred to a storage or disposal facility authorized to receive the waste.

Sec. 61. NAC 459.3595 is hereby amended to read as follows:

459.3595 A licensee or applicant for a license may apply to the Division for approval of proposed procedures, not otherwise authorized pursuant to NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation*, to dispose of licensed radioactive material generated in the operations of the licensee. Each application must include:

1. A description of the waste containing the licensed radioactive material to be disposed of, including, without limitation, the physical and chemical properties that have an impact on evaluating the risk of the proposed procedures, and the proposed manner and conditions of disposing of the waste;
2. An analysis and evaluation of pertinent information related to the impact of the proposed procedures on the environment;
3. The nature and location of other potentially affected facilities; and
4. Analyses and procedures to ensure that doses are maintained as low as are reasonably achievable and within the limits specified in NAC 459.325, 459.331, 459.333 and 459.335.

Sec. 62. NAC 459.3625 is hereby amended to read as follows:

459.3625 1. Except as otherwise provided in subsection 5, each licensee and registrant shall use the units curie, rad, rem and roentgen, including multiples and subdivisions thereof, to prepare the records required by NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation*, and shall clearly indicate the units of all quantities entered on those records.

2. The licensee or registrant shall make a clear distinction among the quantities entered on the records required by NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation*, including, without limitation:

- (a) Committed effective dose equivalent;
- (b) Deep-dose equivalent;
- (c) Lens dose equivalent;
- (d) Shallow-dose equivalent; and
- (e) Total effective dose equivalent.

3. The licensee may record, in parentheses following the unit measurements required pursuant to subsection 1, the equivalent quantities expressed as unit measurements pursuant to the International System of Units (SI).

4. A discontinuance or curtailment of the activities of a licensee or registrant does not relieve that licensee or registrant of the responsibility for retaining all records required by NAC 459.010 to 459.950, inclusive ~~§~~, *and sections 3 to 9, inclusive, of this regulation*. A licensee or registrant may request the Division to retain such records. An acceptance of the records by the Division relieves the licensee or registrant of subsequent responsibility only in respect to their retention as required by this section.

5. Each licensee or registrant shall use to prepare shipment manifests required pursuant to NAC 459.8231:

- (a) The International System of Units (SI); or
- (b) The International System of Units (SI) and the units set forth in subsection 1.

Sec. 63. NAC 459.363 is hereby amended to read as follows:

459.363 1. Each record required by NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation* must be legible throughout the specified period of retention. The record must be:

- (a) The original;
- (b) A reproduced copy or a microform, if the copy or microform is authenticated by authorized personnel and, if microform is used, the microform is capable of producing a clear copy throughout the specified period of retention; or
- (c) Stored in electronic media with the capability for producing legible, accurate and complete records during the specified period of retention.

2. A licensee or registrant shall maintain adequate safeguards to prevent tampering with and the loss of records.

Sec. 64. NAC 459.3673 is hereby amended to read as follows:

459.3673 Each licensee shall maintain records of the disposal of licensed radioactive materials made pursuant to the provisions of NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation*, including any burial authorized before April 27, 1984. The licensee shall retain the records required by this section until the Division terminates each license or registration requiring the records.

Sec. 65. NAC 459.371 is hereby amended to read as follows:

459.371 1. In addition to the notification required by NAC 459.3695, each licensee and registrant shall submit a written report to the Division within 30 days after learning of any of the following occurrences:

(a) Incidents for which notification is required pursuant to NAC 459.3695.

(b) Doses in excess of:

(1) The limits for an occupational dose for an adult specified in NAC 459.325;

(2) The limits for an occupational dose for a minor specified in NAC 459.331;

(3) The limits for an embryo of a woman who has declared her pregnancy specified in NAC 459.333;

(4) The limits for a member of the public specified in NAC 459.335;

(5) Any applicable limits set forth in the license or registration; or

(6) The constraints on air emissions of radioactive material, excluding radon 222 and its decay products, specified in subsection 2 of NAC 459.321.

(c) Levels of radiation or concentrations of radioactive material in:

(1) A restricted area in excess of any applicable limits set forth in the license or registration; or

(2) An unrestricted area in excess of 10 times the applicable limits set forth in NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation* or in the license or registration.

(d) For licensees subject to the provisions of the generally applicable environmental standards for radiation of the United States Environmental Protection Agency set forth in 40 C.F.R. Part 190, levels of radiation or releases of radioactive material in excess of those standards, or of conditions set forth in the license related to those standards.

2. Each report required pursuant to subsection 1 must describe the extent of exposure of persons to radiation and radioactive material, including, as appropriate:

- (a) Estimates of the dose of each person;
- (b) The levels of radiation and concentrations of radioactive material involved;
- (c) The cause of the elevated exposures, dose rates or concentrations; and
- (d) Corrective steps taken or planned to ensure against a recurrence, including, without limitation, the schedule for achieving conformance with applicable limits, constraints on air emissions of radioactive material, excluding radon 222 and its decay products, specified in subsection 2 of NAC 459.321, generally applicable environmental standards for radiation of the United States Environmental Protection Agency and associated conditions set forth in the license or registration.

3. Each report filed pursuant to this section must include, for each person exposed, his name, social security number and date of birth. With respect to reports of exposure to an embryo, the information must relate to the woman carrying the embryo. The report must be prepared so that the information required by this subsection is stated in a separate and detachable portion of the report.

Sec. 66. NAC 459.373 is hereby amended to read as follows:

459.373 In addition to complying with any other reporting requirements specified in NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation*, a licensee shall comply with the following reporting requirements:

1. Each licensee shall notify the Division as soon as possible, but not later than 4 hours, after the discovery of an event that prevents immediate protective actions to be taken that are necessary to avoid exposure to radiation or radioactive materials that could exceed the limits

specified in NAC 459.010 to 459.950, inclusive ~~[H]~~, *and sections 3 to 9, inclusive, of this regulation.*

2. Each licensee shall notify the Division within 24 hours after the discovery of any of the following events involving licensed radioactive material:

(a) An unplanned event causing radioactive contamination that:

(1) Requires access to the contaminated area by workers or members of the public to be restricted for more than 24 hours by imposing additional radiological controls or by prohibiting entry into the area, if such a restriction is imposed for any reason other than to allow isotopes with a half-life of less than 24 hours to decay in storage before decontamination; and

(2) Involves a quantity of radioactive material which is greater than five times the lowest annual limit on intake specified in Appendix B for that material.

(b) An event in which equipment is disabled or fails to function as designed if:

(1) The equipment is required pursuant to NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation*, or as a condition of a license, to prevent releases of or exposure to radioactive materials exceeding the limits specified in NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation*, or to mitigate the consequences of an accident;

(2) The equipment is required to be available and operable when it is disabled or fails to function; and

(3) Other equipment is not available and operable to perform the required safety function.

(c) An event that requires unplanned medical treatment at a medical facility for a person who has spreadable radioactive contamination on his clothing or body.

(d) An unplanned fire or explosion damaging any licensed radioactive material or any device, container or equipment containing licensed radioactive material if:

(1) The quantity of radioactive material involved is greater than five times the lowest annual limit on intake specified in Appendix B for that radioactive material; and

(2) The damage affects the integrity of the licensed radioactive material or its container.

3. Reports made by a licensee pursuant to this section must be made as follows:

(a) A licensee shall make the reports required by subsections 1 and 2 by telephone. To the extent that the information is available at the time of notification by telephone, the information provided in these reports must include, without limitation:

(1) The name and telephone number of the caller;

(2) A description of the event, including, without limitation, the date and time of the event;

(3) The exact location of the event;

(4) The isotopes, quantities and chemical and physical form of the licensed radioactive material involved; and

(5) Any data regarding the exposure of persons to radiation because of the event.

(b) Except as otherwise provided in paragraph (c) , ~~[of this subsection,]~~ each licensee who makes a report by telephone shall submit a written report to the Division within 30 days after the report by telephone is made. The written report must contain:

(1) A description of the event, including, without limitation, the probable cause of the event and the manufacturer and model number of any equipment that failed or malfunctioned;

(2) The exact location of the event;

(3) The isotopes, quantities and chemical and physical form of the licensed radioactive material involved;

(4) The date and time of the event;

(5) Any corrective actions taken or planned regarding the event;

(6) The results of any evaluations or assessments regarding the event; and

(7) The extent of any exposure of persons to radiation or to radioactive materials because of the event, without identifying those persons by name.

(c) A licensee is not required to comply with the provisions of paragraph (b) if a report submitted pursuant to NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation* contains all the information required by paragraph (b).

Sec. 67. NAC 459.704 is hereby amended to read as follows:

459.704 1. The provisions of NAC 459.680 to 459.733, inclusive, establish radiation safety requirements for persons engaged in X-ray industrial radiography. These requirements are in addition to and not in substitution for other applicable requirements of NAC 459.010 to 459.950, inclusive ~~[]~~, *and sections 3 to 9, inclusive, of this regulation.*

2. The provisions of NAC 459.680 to 459.733, inclusive, apply to all registrants who engage in X-ray industrial radiography.

Sec. 68. 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 3 to 9, inclusive, of this regulation*, a person ~~[registered with]~~ *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.

2. Part 34 of Title 10 of the Code of Federal Regulations, as those provisions existed on January 1, 2001, 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 ~~{};~~, *and sections 3 to 9, inclusive, of this regulation*”;

(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 ~~{};~~, *and sections 3 to 9, inclusive, of this regulation*”;

(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 71,” “10 CFR part 71,” “10 CFR 71.5,” “§ 71.5,” or “49 CFR parts 171–173” shall be deemed a reference to “NAC 459.314”;~~

~~(r)~~ Any reference to “10 CFR 150.20” or “§ 150.20” shall be deemed a reference to “NAC 459.210”;

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

~~(t)~~ (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)~~ (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)~~ (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)~~ (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)~~ (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)~~ (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, *and sections 3 to 9, inclusive, of this regulation*, by the Nuclear Regulatory Commission or an agreement state.”

3. The following sections of Part 34 of Title 10 of the Code of Federal Regulations, as those provisions existed on January 1, 2001, 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 from the Superintendent of Documents, United States Government Printing Office, Washington, D.C. 20402, at the price of \$55.

Sec. 69. NAC 459.740 is hereby amended to read as follows:

459.740 1. The provisions of NAC 459.740 to 459.752, inclusive, establish procedures for the registration and the use of particle accelerators.

2. In addition to the requirements of NAC 459.740 to 459.752, inclusive, all registrants are subject to the requirements of NAC 459.010 to 459.166, inclusive, *and sections 3 to 6, inclusive, of this regulation*, 459.320 to 459.374, inclusive, and 459.780 to 459.794, inclusive. Registrants engaged in X-ray industrial radiographic operations are subject to the requirements of NAC 459.680 to 459.733, inclusive, and registrants engaged in the healing arts are subject to the requirements of NAC 459.400 to 459.624, inclusive. Registrants engaged in the production of

radioactive material are subject to the requirements of NAC 459.180 to ~~459.314, inclusive.~~
459.313, inclusive, and sections 7, 8 and 9 of this regulation.

Sec. 70. NAC 459.742 is hereby amended to read as follows:

459.742 1. No person may receive, possess, use, transfer, own or acquire a particle accelerator except as authorized in a registration issued pursuant to NAC 459.010 to 459.950, inclusive, *and sections 3 to 9, inclusive, of this regulation*, or as otherwise provided for in those sections. The general procedures for registration of particle accelerator facilities are included in NAC 459.150 to 459.166, inclusive.

2. In addition to the requirements of NAC 459.150 to 459.166, inclusive, a registration application for use of a particle accelerator may be approved only if the Division determines that:

(a) The applicant is qualified by reason of training and experience to use the accelerator in question for the purpose requested in accordance with NAC 459.320 to 459.374, inclusive, 459.740 to 459.752, inclusive, and 459.780 to 459.794, inclusive, in such a manner as to minimize danger to public health and safety or property;

(b) The applicant's proposed or existing equipment, facilities, operating and emergency procedures are adequate to protect health and minimize danger to public health and safety or property;

(c) The issuance of the registration will not be inimical to the health and safety of the public and the applicant satisfies any applicable special requirement in subsection 3;

(d) The applicant has appointed a safety officer in radiation;

(e) The applicant or the applicant's staff has substantial experience in the use of particle accelerators and training sufficient for application to its intended uses;

(f) The applicant has established a safety committee in radiation to approve, in advance, proposals for uses of the particle accelerator, whenever deemed necessary by the Division; and

(g) The applicant has an adequate training program for operators of the particle accelerator.

3. In addition to the requirements in NAC 459.150 to 459.166, inclusive, a registration for use of a particle accelerator in the healing arts will be issued only if the following requirements are met:

(a) The applicant has appointed a medical committee of at least three members to evaluate all proposals for research, diagnostic and therapeutic use of the particle accelerator whenever deemed necessary by the Division. Membership of the committee should include physicians expert in internal medicine, hematology, therapeutic radiology and a person experienced in depth dose calculations and protection against radiation.

(b) The persons designated on the application as the users have substantial training and experience in deep therapy techniques or in the use of particle accelerators to treat humans.

(c) Any person designated on the application as the user is a physician.

Sec. 71. NAC 459.7635 is hereby amended to read as follows:

459.7635 The provisions of NAC 459.756 to 459.7745, inclusive:

1. Establish radiation safety requirements for persons using sources of radiation for well logging which are in addition to and not in substitution for other applicable requirements of NAC 459.010 to 459.950, inclusive ~~§~~, *and sections 3 to 9, inclusive, of this regulation;*

2. Apply to all licensees or registrants who use sources of radiation for well logging; and

3. Apply to both radiation machines and radioactive materials unless the context otherwise requires.

Sec. 72. NAC 459.7701 is hereby amended to read as follows:

459.7701 1. A licensee shall not permit a person to act as a logging supervisor until that person:

(a) Has completed training in the subjects set forth in NAC 459.7705.

(b) Has received copies of, and instruction in:

(1) The regulations contained in NAC 459.010 to 459.950, inclusive ~~1~~, *and sections 3 to 9, inclusive, of this regulation;*

(2) The division license under which the logging supervisor will perform well logging;
and

(3) The licensee's operating and emergency procedures required by NAC 459.7715.

(c) Has completed on-the-job training and demonstrated his competence, in a field evaluation, in the use of:

(1) Radioactive materials;

(2) Remote handling tools; and

(3) Radiation survey instruments.

(d) Has demonstrated his understanding of the requirements of paragraphs (a) and (b) of subsection 1 ~~1~~ by successfully completing a written test.

2. A licensee shall not permit a person to act as a logging assistant until that person:

(a) Has received instruction in the regulations contained in NAC 459.010 to 459.950, inclusive ~~1~~, *and sections 3 to 9, inclusive, of this regulation;*

(b) Has received copies of, and instruction in the licensee's operating and emergency procedures required by NAC 459.7715;

(c) Has demonstrated his understanding of the materials listed in paragraphs (a) and (b) ~~of this subsection~~ by successfully completing a written or oral test; and

(d) Has received instruction appropriate for his job responsibilities in the use of:

- (1) Radioactive materials;
- (2) Remote handling tools; and
- (3) Radiation survey instruments.

3. A licensee shall provide a safety review for logging supervisors and logging assistants at least once during each calendar year.

4. A licensee shall maintain a record of the training and safety review provided each logging supervisor and logging assistant. The records of training must include copies of written tests and dates of oral tests. The records of training must be retained for 3 years after the termination of employment of the supervisor or assistant. Records of the annual safety reviews must list the topics discussed and be retained for 3 years.

Sec. 73. NAC 459.7745 is hereby amended to read as follows:

459.7745 1. Each licensee and registrant shall maintain the following documents and records at the field station:

(a) The regulations contained in NAC 459.010 to 459.950, inclusive ~~§1~~, *and sections 3 to 9, inclusive, of this regulation;*

(b) The license or registration authorizing the use of a source of radiation;

(c) The records of calibration of radiation survey instruments;

(d) Operating and emergency procedures;

(e) The records of leak tests;

(f) Physical inventory records;

(g) Utilization records;

(h) Records of inspection and maintenance;

- (i) Training records; and
- (j) Survey records.

2. Each licensee and registrant shall maintain the following documents and records at a temporary job site while well logging operations are being conducted:

- (a) Operating and emergency procedures;
- (b) Evidence of the latest calibration of the radiation survey instruments in use at the site;
- (c) The latest survey records required by NAC 459.7725;
- (d) The shipping papers for transportation of radioactive material;
- (e) The latest leak test record;
- (f) A copy of the license or registration authorizing the use of a source of radiation; and
- (g) Identification documents for each person who enters the restricted area at the site which indicates his classification as logging supervisor, logging assistant or other category, and states that he is an employee of the licensee or registrant.

Sec. 74. NAC 459.780 is hereby amended to read as follows:

459.780 NAC 459.780 to 459.794, inclusive:

1. Establish requirements for notices, instructions and reports by licensees or registrants to persons engaged in work under a license or registration and options available to those persons in connection with the Division's inspections of licensees or registrants to ascertain compliance with the provisions of chapter 459 of NRS and regulations, orders and licenses issued thereunder regarding radiological working conditions.

2. Apply to all persons who receive, possess, use or transfer sources of radiation licensed by or registered with the Division pursuant to NAC 459.150 to ~~459.314, inclusive.~~ **459.313, inclusive, and sections 7, 8 and 9 of this regulation.**

Sec. 75. NAC 459.818 is hereby amended to read as follows:

459.818 1. Each licensee shall permit the Division at all reasonable times to inspect radioactive waste not yet disposed of and the premises, equipment, operations and facilities in which radioactive wastes are received, possessed, handled, treated, stored and disposed of, unless the licensee has a record of satisfactory compliance with the regulations of the United States Department of Transportation, as determined by the Division.

2. Each licensee shall make available to the Division for inspection, upon reasonable notice, records kept by it pursuant to the provisions of NAC 459.3665 and 459.800 to 459.8225, inclusive. An authorized representative of the Division may copy for the Division's use any record required to be kept pursuant to the provisions of NAC 459.010 to 459.950, inclusive ~~H~~, *and sections 3 to 9, inclusive, of this regulation.*

Sec. 76. NAC 459.240, 459.242 and 459.314 are hereby repealed.

TEXT OF REPEALED SECTIONS

459.240 Specific licenses: Institutional use of radioactive material on human beings.

(NRS 459.201) In addition to the requirements set forth in NAC 459.238, a specific license for institutional use of radioactive material on human beings will be issued if all the following requirements are satisfied:

1. The applicant has appointed a committee on radiation safety to oversee the use of radioactive material throughout the institution and review the institution's safety program. The committee must consist of at least the following members:

- (a) An authorized user for each type of use permitted by the license;
- (b) A representative of the nursing staff;
- (c) A representative of the institution's management who is neither an authorized user nor a radiation safety officer; and
- (d) The radiation safety officer.

2. The applicant possesses adequate facilities for the clinical care of patients.

3. A physician designated as an authorized user has the training and experience required in NAC 459.010 to 459.950, inclusive, that is appropriate to the type of usage of radioactive material for which he is authorized and, where applicable, the clinical management of patients who are radioactive.

4. The operating procedures for radiation safety proposed by the applicant are adequate for the handling and disposal of the quantities and types of radioactive materials specified in the application.

459.242 Specific licenses: Physicians using radioactive material for humans. (NRS 459.201) In addition to the requirements in NAC 459.238, a specific license for the human use of radioactive material will be issued to an individual physician if:

1. The applicant has access to a hospital possessing adequate facilities to hospitalize and monitor the radioactive patients of the applicant whenever it is advisable;

2. The applicant has the training and experience required in NAC 459.010 to 459.950, inclusive, that is appropriate to the type of usage of radioactive material for which he is authorized and, where applicable, the clinical management of radioactive patients; and

3. The operating procedures for radiation safety proposed by the applicant are adequate for the handling and disposal of the quantities and types of radioactive materials specified in the application.

459.314 Transportation: Preparation of radioactive material. (NRS 459.201)

1. Except as otherwise provided in subsection 3, no licensee may deliver any radioactive material to a carrier for transport, unless:

(a) The licensee complies with the applicable requirements of the regulations appropriate to the mode of transport of the United States Department of Transportation;

(b) The licensee has established procedures for opening and closing a package in which radioactive material is transported to provide safety and to ensure that before the delivery to a carrier for transport, each package is properly closed for transport; and

(c) Before delivery of a package to a carrier for transport, the licensee must assure that any special instructions needed to open safely the package are sent to or have been made available to the consignee.

2. For the purpose of subsection 1, a licensee who transports his own licensed material as a private carrier is considered to have delivered such material to a carrier for transport.

3. Subsection 1 does not apply to the transportation of licensed material or to the delivery of licensed material to a carrier for transport where the transportation is subject to the regulations of the United States Postal Service.

NOTICE OF ADOPTION OF PROPOSED REGULATION
LCB File No. R149-07

The State Board of Health adopted regulations assigned LCB File No. R149-07 which pertain to chapters 457 and 459 of the Nevada Administrative Code.

INFORMATIONAL STATEMENT

1. A description of how public comment was solicited, a summary of public response, and an explanation how other interested persons may obtain a copy of the summary.

Comment was solicited from the regulated community, in that each radioactive material licensee, x-ray registrant and mammography technologist was sent a copy of the proposed regulations and the small business impact questionnaire. Additionally, all known interested persons were provided with copies of the proposed regulations. Notice of proposed changes were sent to all Bureau offices, main county libraries and facilities on the Health Division listing for posting of proposed regulations. All the above were notified by direct mailing of scheduled workshops. Notice of proposed workshop was published in the Elko Daily Free Press on August 16, 2007, Reno Gazette-Journal on August 16, 2007 and the Las Vegas Review-Journal and Las Vegas Sun on August 16, 2007. Public workshop was held at 10:00 a.m. on September 10, 2007, by videoconference between Bureau of Licensure and Certification, 1550 East College Parkway, Suite 158, Carson City, Nevada and Bureau of Licensure and Certification, 4220 South Maryland Parkway, Suite 810, Las Vegas, Nevada. A telephone conference call workshop was held between the Radiological Health Section, 4150 Technology Way, Suite 204 and the Elko County Library, 720 Court Street, at 12:00 on September 10, 2007.

2. The number of persons who:

- (a) Attended the workshop;

Seven (7) members of the regulated community attended the teleconferenced workshop. One comment and two questions were offered at the workshop, and no changes were made in the proposed revisions to NAC 459.

No members of the regulated community attended the telephone conference call between Elko and Carson City.

- (b) Testified at each workshop; and

One (1) comment and two (2) questions were presented at the public workshops; no changes were submitted to LCB for inclusion in the proposed changes to NAC 459.

- (c) Submitted to the agency written statements.

Aside from comments in the Small Business Impact Questionnaire, one (1) written statement in the form of a letter from a small business employee was received. This letter was from a mammography technologist and focused on issues this professional

sees in her profession and how she relates them to regulation. A number of items discussed in this letter stem from federal regulation in the Mammography Standards Quality Act and not state regulation. A summary of comments submitted in the Small Business Impact Questionnaire are described below.

Question #2. Will a specific regulation have an adverse economic effect upon your business?

There were 107 specific comments to this question on the returned questionnaires. The great majority of comments stated that an increase in registration fees would increase the business's overhead costs reducing profitability and may ultimately have to be passed on to the consumers. A few stated that due to reimbursement schedules established by insurance companies, it will be difficult to regain these costs. In three extreme cases, the respondents said they would lay-off current employees or be forced to leave the state.

The second most common comment referred to the size of the proposed increase as a percentage of the current fees, in particular those fees that are proposed to be doubled. Some suggested a smaller percentage increase that would be implemented annually over the course of several years as a more attractive alternative.

A number of comments indicated a lack of understanding of the x-ray registration program or cited misinformation or erroneous facts about the program. There were a number of comments questioning the necessity of the increases and asking for explanation, i.e. what the state provides in return. Several couldn't understand why different x-ray machines are assessed different fees. Finally, a few made statement that x-ray registration fees have been recently increased or increased several times when they have not.

Question #3. Will the regulation(s) have any beneficial effect upon your business?

There were 28 specific comments to this question. Two (2) responders indicated they believed it would improve public and/or workplace safety. The other 26 comments stated that the proposed regulation represented no potential benefit to the business or the respondent took the opportunity to make a "tongue-in-cheek" humorous reply, such as "Yes, won't be able to afford to use my machine on patients."

Question #4. Do you anticipate any indirect adverse effects upon your business?

There were 61 specific comments to this question. The responses were quite similar to the responses to Question #2. The majority indicating a hardship due to increased overhead costs resulting from the fee increase. Most indicated that these costs would eventually be passed on to the patient. A few stated that they believed some patients might refuse x-ray related service due to the proposed cost increase. One or two indicated that they may terminate a service they currently make available because they do not perform frequently enough to justify the increased fee. Again there were

a couple that speculated staff lay-offs may result from higher costs and fewer patients. One respondent stated that Radiological Health Section employees have not visited their practice in over seven (7) years, so they could not understand the need for an increase.

Question #5. Do you anticipate any indirect beneficial effects upon you business?

There were 17 specific comments to this question. All but one (1) comment to this question indicated that they perceived no beneficial effect or answered the question by re-stating their perception of the negative effect of the proposed fee increase. The lone exception stated they hoped it would result in greater access to the Radiological Health Section staff to help improve their compliance.

3. A description of how comment was solicited from affected businesses, a summary of their response, and an explanation how other interested persons may obtain a copy of the summary.

Comment was solicited from the affected businesses in that all radioactive material specific and general licensees, x-ray facilities and mammography technologists were mailed copies of the proposed changes and copies of the small business impact questionnaire and they were advised by direct mail of the time, date and location of the workshop.

Approximately 204 Small Business Impact Questionnaires (SBIQ) were received-about 3% were from radioactive material licensees. The rest of the questionnaires were from x-ray registrants. There were 3 surveys received that did not identify the respondent.

Approximately 45% of the questionnaires had no comment about specific sections of the regulations.

107 (52%) respondents to the SBIQ indicated the proposed regulation would have an adverse economic impact on their business.

Eight (8) (4%) respondents to the SBIQ indicated the proposed regulation would have a beneficial economic impact on their business.

65 (32%) respondents to the SBIQ indicated the proposed regulation would have an indirect adverse effect on their business.

Five (5) (2.5%) respondents to the SBIQ indicated the proposed regulation would have an indirect beneficial effect on their business.

Eight (8) (4%) gave no indication of any adverse or beneficial impact on their businesses.

No changes were made to the proposed regulations based on public comment received.

4. If the regulation was adopted without changing any part of the proposed regulation, a summary of the reasons for adopting the regulation without change. The statement should also explain the reasons for making any changes to the regulation as proposed.

Comments from LCB review and NRC review were incorporated into the proposed regulation revisions.

5. The estimated economic effect of the regulation on the business which it is to regulate and on the public. These must be stated separately, and in each case must include:

(a) Estimated economic effect:

- (1) Regulated businesses:

X-Ray Registrations

Approximate Increase in Revenue from Fee = \$661,465

Number of X-Ray Registrations = 5,810

Average Increase per Registration = \$114

RAM Licenses

Approximate Increase in Revenue from Fee = \$68,498

Number of RAM Licenses = 265

Average Increase per License = \$259

- (2) Public:

No anticipated economic increase to the public.

(b) Immediate and long term effects:

- (1) Regulated businesses:

Both immediate and long term effects will be greater security for portable gauge licensees and greater awareness and increased control for licensees possessing radioactive material under general license.

- (2) Public:

Both immediate and long term effects will be reduction in the potential to radiation exposure due to heightened awareness and security of radioactive material by the persons licensed to use the radioactive material.

6. The estimated cost to the agency for enforcement of the proposed regulation,

The cost to the agency to enforce the proposed regulations will be minimal.

7. A description of any regulations of other state or government agencies which the proposed regulation overlaps or duplicates and a statement explaining why the duplication or overlapping is necessary. If the regulation overlaps or duplicates a federal regulation, name the regulating federal agency.

No overlap or duplication.

8. If the regulation includes provisions which are more stringent than a federal regulation which regulates the same activity, a summary of such provisions.

No federal regulation regulates the same activities in Nevada as those regulated under NAC 459.

9. If the regulation provides a new fee or increases an existing fee, the total annual amount the agency expects to collect and the manner in which the money will be used.

X-Ray Program

Approximate Total Fee Collection after Proposed Increase = \$1,382,780

RAM Program

Approximate Total Fee Collection after Proposed Increase = \$753,473