

Title 33
ENVIRONMENTAL QUALITY
Part XV. Radiation Protection

Chapter 4. Standards for Protection against Radiation
Subchapter J. Reports

§493. Reports of Transactions Involving Nationally Tracked Sources

A. Each licensee who manufactures, transfers, receives, disassembles, or disposes of a nationally tracked source shall complete and submit a national source tracking transaction report as specified in Subsections B-F of this Section for each type of transaction.

B. Each licensee who manufactures a nationally tracked source shall complete and submit a national source tracking transaction report. The report must include the following information:

1. the name, address, and license number of the reporting licensee;
2. the name of the individual preparing the report;
3. the manufacturer, model, and serial number of the source;
4. the radioactive material in the source;
5. the initial source strength in becquerels (curies) at the time of

manufacture; and

6. the manufacture date of the source.

C. Each licensee who transfers a nationally tracked source to another licensee shall complete and submit a national source tracking transaction report. The report must include the following information:

1. the name, address, and license number of the reporting licensee;
2. the name of the individual preparing the report;
3. the name and license number of the recipient licensee and the shipping

address;

4. the manufacturer, model, and serial number of the source or, if not available, other information to uniquely identify the source;

5. the radioactive material in the source;
6. the initial or current source strength in becquerels (curies);
7. the date for which the source strength is reported;
8. the shipping date;
9. the estimated arrival date; and
10. for nationally tracked sources transferred as waste under a Uniform Low-

Level Radioactive Waste Manifest, the waste manifest number and the identification of the container with the nationally tracked source.

D. Each licensee who receives a nationally tracked source shall complete and submit a national source tracking transaction report. The report must include the following information:

1. the name, address, and license number of the reporting licensee;
2. the name of the individual preparing the report;
3. the name, address, and license number of the licensee who provided the

source;

4. the manufacturer, model, and serial number of the source or, if not available, other information to uniquely identify the source;
 5. the radioactive material in the source;
 6. the initial or current source strength in becquerels (curies);
 7. the date for which the source strength is reported;
 8. the date of receipt; and
 9. for material received under a Uniform Low-Level Radioactive Waste Manifest, the waste manifest number and the identification of the container with the nationally tracked source.

E. Each licensee who disassembles a nationally tracked source shall complete and submit a national source tracking transaction report. The report must include the following information:

1. the name, address, and license number of the reporting licensee;
 2. the name of the individual preparing the report;
 3. the manufacturer, model, and serial number of the source or, if not available, other information to uniquely identify the source;
 4. the radioactive material in the source;
 5. the initial or current source strength in becquerels (curies);
 6. the date for which the source strength is reported; and
 7. the disassembly date of the source.

F. Each licensee who disposes of a nationally tracked source shall complete and submit a national source tracking transaction report. The report must include the following information:

1. the name, address, and license number of the reporting licensee;
 2. the name of the individual preparing the report;
 3. the waste manifest number;
 4. the identification of the container with the nationally tracked source;
 5. the date of disposal; and
 6. the method of disposal.

G. The reports specified in Subsections B-F of this Section shall be submitted by the close of the next business day after the transaction. A single report may be submitted for multiple sources and transactions. The reports shall be submitted to the national source tracking system:

1. using the on-line national source tracking system;
 2. electronically, using a computer-readable format;
 3. by facsimile;
 4. by mail, to the address on the National Source Tracking Transaction

Report Form (NRC Form 748); or

5. by telephone, with follow-up by facsimile or mail.

H. Each licensee shall correct any error in previously-filed reports or file a new report for any missed transaction within five business days of the discovery of the error or missed transaction. Such errors may be detected by a variety of methods, such as administrative reviews or physical inventories required by regulation. In addition, each licensee shall reconcile the inventory of nationally tracked sources possessed by the licensee against that licensee's data in the national source tracking system. The reconciliation must be conducted during the month of January in each year. The reconciliation process must include resolving any discrepancies

between the national source tracking system and the actual inventory by filing the applicable reports specified in Subsections B-F of this Section. By January 31 of each year, each licensee must submit to the national source tracking system confirmation that the data in the national source tracking system is correct.

I. Each licensee who possesses Category 1 nationally tracked sources shall report the initial inventory of the licensee's Category 1 nationally tracked sources to the national source tracking system by November 15, 2007. Each licensee who possesses Category 2 nationally tracked sources shall report the initial inventory of the licensee's Category 2 nationally tracked sources to the national source tracking system by November 30, 2007. The information may be submitted by using any of the methods specified in Paragraphs G.1-4 of this Section. The initial inventory report must include the following information:

1. the name, address, and license number of the reporting licensee;
2. the name of the individual preparing the report;
3. the manufacturer, model, and serial number of each nationally tracked source or, if not available, other information to uniquely identify the source;
4. the radioactive material in the sealed source;
5. the initial or current source strength in becquerels (curies); and
6. the date for which the source strength is reported.

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HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of the Secretary, Legal Affairs Division, LR 33:**.

Chapter 6. X-Rays in the Healing Arts

§602. Definitions

As used in this Chapter, the following definitions apply. Other definitions applicable to this Chapter may be found in LAC 33:XV.Chapters 1 and 2.

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Half-Value Layer—the thickness of specified material that attenuates the beam of radiation to an extent ~~such that the exposure rate is reduced by one half to 2 of its original value.~~ In this definition, the contribution of all scattered radiation, other than any that might be present initially in the beam concerned, is deemed to be excluded.

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HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), amended by the Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 19:1421 (November 1993), LR 23:1139 (September 1997), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2585 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 33:**.

Chapter 20. Radiation Safety Requirements for Wireline Service Operations and Subsurface Tracer Studies

§2017. Design, Performance, and Certification Criteria for Sealed Sources Used in Downhole and Well-Logging Operations

A. Sealed Source Used in Downhole and Well-Logging Applications Each sealed source, ~~except those containing radioactive material in gaseous form, used in downhole operations and manufactured after October 20, 1988, shall be certified by the manufacturer, or other testing organization acceptable to the Office of Environmental Compliance, Emergency and Radiological Services Division, to meet the following minimum criteria:~~

1. A licensee may use a sealed source in downhole and well-logging applications if the sealed source:~~it must be of doubly encapsulated construction;~~

- a. is doubly encapsulated;
- b. contains licensed material whose chemical and physical forms are as insoluble and nondispersible as practical; and
- c. meets one of the following requirements:
 - i. for a sealed source manufactured on or before July 14, 1989, the requirements of USASI N5.10-1968, "Classification of Sealed Radioactive Sources," or the requirements in Clause A.1.c.ii or iii of this Section; or
 - ii. for a sealed source manufactured after July 14, 1989, the oil well-logging requirements of ANSI/HPS N43.6-1997, "Sealed Radioactive Sources—Classification"; or
 - iii. for a sealed source manufactured after July 14, 1989, the sealed source's prototype has been tested and found to maintain its integrity after each of the following tests:

(a). Temperature Test. The test source must be held at -40°C for 20 minutes, 600°C for 1 hour, and then be subjected to a thermal shock test with a temperature drop from 600°C to 20°C within 15 seconds.

(b). Impact Test. A 5 kg steel hammer, 2.5 cm in diameter, must be dropped from a height of 1 m onto the test source.

(c). Vibration Test. The test source must be subjected to a vibration from 25 Hz to 500 Hz at 5 g amplitude for 30 minutes.

(d). Puncture Test. A 1 gram hammer and pin, 0.3 cm pin diameter, must be dropped from a height of 1 m onto the test source.

(e). Pressure Test. The test source must be subjected to an external pressure of 1.695×10^7 pascals (24,600 pounds per square inch absolute).

2. The requirements in Subparagraphs A.1.a-c of this Section do not apply to sealed sources that contain licensed material in gaseous form.~~it must contain licensed radioactive material whose chemical and physical forms are as insoluble and nondispersible as practical; and~~

3. The requirements in Subparagraphs A.1.a-c of this Section do not apply to energy compensation sources (ECS). ECSs must be registered with the U.S. Nuclear Regulatory Commission, an agreement state, or the Office of Environmental Compliance.~~it must meet the following requirements:~~

a. ~~for a sealed source manufactured on or before July 14, 1989, the requirements of USASI N5.10-1968, "Classification of Sealed Radioactive Sources," or the requirements in Subsection C or D of this Section; or~~

b. ~~for a sealed source manufactured after July 14, 1989, the oil well-logging requirements of ANSI/HPS N43.6-1997, "Sealed Radioactive Sources—Classification";~~

or

~~e. — for a sealed source manufactured after July 14, 1989, the sealed source's prototype has been tested and found to maintain its integrity after each of the following tests:~~

~~i. — Temperature Test. The test source must be held at -40°C for 20 minutes, 600°C for 1 hour, and then be subjected to a thermal shock test with a temperature drop from 600°C to 20°C within 15 seconds.~~

~~ii. — Impact Test. A 5 kg steel hammer, 2.5 cm in diameter, must be dropped from a height of 1 m onto the test source.~~

~~iii. — Vibration Test. The test source must be subjected to a vibration from 25 Hz to 500 Hz at 5 g amplitude for 30 minutes.~~

~~iv. — Puncture Test. A 1 gram hammer and pin, 0.3 cm pin diameter, must be dropped from a height of 1 m onto the test source.~~

~~v. — Pressure Test. The test source must be subjected to an external pressure of 1.695×10^7 pascals (24,600 pounds per square inch absolute).~~

B. For sealed sources, except those containing radioactive material in gaseous form, acquired after ~~October 20, 1988~~ July 14, 1989, in the absence of a certificate from a transferor certifying that an individual sealed source meets the requirements of LAC 33:XV.2017.A₂, the sealed source shall not be put into use until such determinations and testing have been performed.

C. Each sealed source, except those containing radioactive material in gaseous form, used in downhole operations after ~~October 20, 1988~~ July 14, 1989, shall be certified by the manufacturer, or other testing organization acceptable to the Office of Environmental Compliance, ~~Emergency and Radiological Services Division~~, as meeting the sealed source performance requirements for oil well-logging as contained in the American National Standard N542, "Sealed Radioactive Sources, Classification," in effect on October 20, 1987.

D. . . .

~~E. — Sealed Source Used in Well Logging Applications~~

~~1. — A licensee may use a sealed source in well-logging applications if the sealed source:~~

~~a. — is doubly encapsulated;~~

~~b. — contains licensed material whose chemical and physical forms are as insoluble and nondispersible as practical; and~~

~~c. — meets the following requirements:~~

~~i. — for a sealed source manufactured on or before July 14, 1989, the requirements of USASI N5.10-1968, "Classification of Sealed Radioactive Sources," or the requirements in Subsection C or D of this Section; or~~

~~ii. — for a sealed source manufactured after July 14, 1989, the oil well-logging requirements of ANSI/HPS N43.6-1997, "Sealed Radioactive Sources — Classification"; or~~

~~iii. — for a sealed source manufactured after July 14, 1989, the sealed source's prototype has been tested and found to maintain its integrity after each of the following tests:~~

~~(a). — Temperature. The test source must be held at -40°C for 20 minutes, 600°C for 1 hour, and then be subjected to a thermal shock test with a temperature drop from 600°C to 20°C within 15 seconds.~~

~~(b).—Impact Test. A 5 kg steel hammer, 2.5 cm in diameter, must be dropped from a height of 1 m onto the test source.~~

~~(c).—Vibration Test. The test source must be subjected to a vibration from 25 Hz to 500 Hz at 5 g amplitude for 30 minutes.~~

~~(d).—Puncture Test. A 1 gram hammer and pin, 0.3 cm pin diameter, must be dropped from a height of 1 m onto the test source.~~

~~(e).—Pressure Test. The test source must be subjected to an external pressure of 1.695×10^7 pascals (24,600 pounds per square inch absolute).~~

~~2.—The requirements in Subparagraphs E.1.a-e of this Section do not apply to sealed sources that contain licensed material in gaseous form.~~

~~3.—The requirements in Subparagraphs E.1.a-e of this Section do not apply to energy compensation sources (ECSs). ECSs must be registered with the U.S. Nuclear Regulatory Commission, an agreement state, or the Office of Environmental Compliance, Emergency and Radiological Services Division.~~

E.F. Energy Compensation Source. The licensee may use an energy compensation source (ECS) that is contained within a logging tool, or other tool components, only if the ECS contains quantities of licensed material not exceeding 3.7 MBq (100 microcuries).

1. For well-logging applications with a surface casing for protecting fresh water aquifers, use of the ECS is only subject to the requirements of LAC 33:XV.2014, 2015, and 2016.

2. For well-logging applications without a surface casing for protecting fresh water aquifers, use of the ECS is only subject to the requirements of Subsection GH of this Section and LAC 33:XV.2004, 2014, 2015, 2016, and 2051.

E.G. Tritium Neutron Generator Target Source

1. Use of a tritium neutron generator target source, containing quantities not exceeding 1,110 MBq (30 curies) and in a well with a surface casing to protect fresh water aquifers, is subject to the requirements of these regulations except Subsections A and E and F of this Section and LAC 33:XV.2051.

2. Use of a tritium neutron generator target source, containing quantities exceeding 1,110 MBq (30 curies) or in a well without a surface casing to protect fresh water aquifers, is subject to the requirements of these regulations except Subsections A and E and F of this Section.

G.H. Use of a Sealed Source in a Well Without a Surface Casing. The licensee may use a sealed source in a well without a surface casing for protecting fresh water aquifers only if the licensee follows a procedure for reducing the probability of the source becoming lodged in the well. The procedure must be approved by the Office of Environmental Compliance, ~~Emergency and Radiological Services Division.~~

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Subchapter D. Notification

§2051. Notification of Incidents, Abandonment, and Lost Sources

A. – D.2.c. . . .

d. the name of the well owner or well operator, as appropriate;

~~e.d.~~ the well name and well identification number(s) or other designation;

~~f.e.~~ the sealed source(s) by radionuclide and quantity of activity;

~~g.f.~~ the source depth and the depth to the top of the plug; and

~~h.g.~~ an appropriate warning, depending on the specific circumstances of each abandonment. Appropriate warnings may include "DO NOT DRILL BELOW PLUG BACK DEPTH"; "DO NOT ENLARGE CASING"; or "DO NOT RE-ENTER THE HOLE," followed by the words, "BEFORE CONTACTING THE OFFICE OF ENVIRONMENTAL COMPLIANCE, LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY."

E. . . .

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