

Title 33
ENVIRONMENTAL QUALITY
Part XV. Radiation Protection

**Chapter 14. Regulation and Licensing of Naturally Occurring Radioactive Material
(NORM)**

§1403. Definitions

A. ...

* * *

Decontamination—the cleaning process of removing or reducing residual radioactivity from equipment, buildings, structures, and land owned, possessed, or controlled by other persons to a level that permits release of equipment, buildings, structures, and land for unrestricted use or termination of license.

* * *

Equipment—any apparatus associated with the potential for or actual enhancement of NORM. Examples include, but are not limited to, tubular goods, piping, vessels, wellheads, separators, and condensers. *Equipment* does not include biodegradable material.

* * *

Nonhazardous Oilfield Waste (NOW)—a type of exploration and production waste; solid material produced from oil and gas related activities that contain exempt quantities of hazardous components according to the Resource Conservation and Recovery Act (RCRA).

NORM Waste—the radioactive residue from any operation where the purpose is to remove NORM from soil, materials, or equipment any solid, liquid, or gaseous material or combination of materials, excluding source material, special nuclear material and by-product material, that:

- a. in its natural physical state emits radiation;
- b. is discarded or unwanted;
- c. prior to treatment or processing that reduces the radioactivity concentration, exceeds exemption criteria specified in LAC 33:XV.1404.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq. and 2104.B.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Nuclear Energy, Nuclear Energy Division, LR 15:736 (September 1989), amended by the Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 18:604 (June 1992), LR 21:24 (January 1995), amended by the Office of the Secretary, Legal Affairs and Criminal Investigations Division, LR 48:

§1404. Exemptions

- A. — A.2. ...
- B. Equipment, which contains NORM, is exempt from the requirements of these regulations, except LAC 33:XV.1409, if the maximum radiation exposure level does not exceed 50 microroentgens per hour at any accessible point.
- C. Except as provided in LAC 33:XV.1408, 1409, and 1417, land is exempt from the requirements of this Chapter if it contains material at concentrations less than the limits specified below, in samples averaged over any 100 square meters with no single noncomposited sample to exceed 60 picocuries per gram of soil:

- C.1. — J. ...

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq. and 2104.B.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Nuclear Energy, Nuclear Energy Division, LR 15:736 (September 1989), amended by the Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 18:605 (June 1992), LR 21:25 (January 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2599 (November 2000), amended by the Office of the Secretary, Legal Affairs and Criminal Investigations Division, LR 48:

§1407. Surveys

A. — C. ...

D. Any survey submitted to the department shall include the qualifications of the individual performing the survey. Individuals performing and documenting the surveys shall demonstrate understanding of the subjects outlined in LAC 33:XV.1499.Appendix A.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq. and 2104.B.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 21:26 (January 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2599 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2536 (October 2005), LR 33:2188 (October 2007), amended by the Office of the Secretary, Legal Affairs and Criminal Investigations Division, LR 48:

§1408. General License

A. — A.6. ...

a. A general licensee is authorized to store NORM waste in a container for 90 days from the date of generation. After such time, the NORM waste shall be transferred to an authorized facility for purposes of treatment, storage, or disposal.

b. To store NORM waste in a container for up to 365 days from generation, a general licensee shall first submit a written NORM waste management plan to the Office of Environmental Compliance and receive authorization from the department. The general licensee may store NORM waste in containers up to 365 days from generation under the written NORM waste management plan while waiting for department determination.

A.7. — E. ...

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq. and 2104.B.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 21:26 (January 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2599 (November 2000), amended by the Office of the Secretary, Legal Affairs Division,

LR 31:2536 (October 2005), LR 33:2188 (October 2007), amended by the Office of the Secretary, Legal Affairs and Criminal Investigations Division, LR 48:

§1409. General Licenses: Pipe Yards, Storage Yards, or Production Equipment Yards

A. A general license is hereby issued for pipe yards or storage yards or production equipment yards to receive, possess, process, and clean tubular goods or equipment that are contaminated with scale or residue but do not exceed 50 microrentgens per hour, provided:

1. the department is notified at least 90 days prior to receipt of tubular goods or equipment that are contaminated with scale or residue but do not exceed 50 microrentgens per hour;
2. a program is developed and submitted to the Office of Environmental Compliance for approval to screen incoming shipments to ensure that the 50-microrentgens-per-hour limit is not exceeded for individual pieces of tubular goods or equipment;
3. a program is developed and submitted to the Office of Environmental Compliance for approval to ensure worker protection, as outlined in LAC 33:XV.1499.Appendix B;
4. a program is developed and submitted to the Office of Environmental Compliance for approval to control soil contamination;
5. a program is developed and submitted to the Office of Environmental Compliance for approval to prevent release of NORM contamination beyond the site boundary;
6. a program is developed and submitted to the Office of Environmental Compliance for approval for surveying and decontamination to ensure that soil contamination is not allowed to exceed 200 picocuries per gram of radium-226 or radium-228 or an exposure rate of 50 microrentgens per hour at one meter from the soil at any time;

7. a plan for cleanup is submitted to the Office of Environmental Compliance within 180 days of the discovery of NORM contaminated soil in excess of the limit in Paragraph A.6 of this Section. The plan shall include a schedule for cleanup that is to be approved by the department. The general licensee may include in this plan an application to the department for a one time authorization to perform this cleanup or use a specific licensee; and

8. before releasing the property for unrestricted use, the soil is decontaminated to a level not to exceed 5 picocuries per gram above background of radium-226 or radium-228 unless other limits are approved by the department.

B. A specific license pursuant to LAC 33:XV.1410 is required for the decontamination of tubular goods or equipment that exceed the 50 microroentgens per hour limit.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq. and 2104.B.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Nuclear Energy, Nuclear Energy Division, LR 15:736 (September 1989), amended by the Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 18:605 (June 1992), LR 21:26 (January 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2599 (November 2000), LR 30:1189 (June 2004), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2536 (October 2005), LR 33:2189 (October 2007), amended by the Office of the Secretary, Legal Affairs and Criminal Investigations Division, LR 48:

§1410. Specific Licenses

A. Unless otherwise exempted in accordance with LAC 33:XV.1404, persons receiving NORM waste from other persons for storage, disposal, or processing, or persons who process NORM for other persons at temporary job sites shall be specifically licensed in accordance with the requirements of this Section. Persons who are authorized to treat or dispose of NORM waste and/or waste containing NORM in accordance with Section 1412.B.2 shall submit an application for a specific license pursuant to Section 1410.C within 365 days of the effective date of this rule.

B. Persons conducting deliberate operations to decontaminate the following shall be specifically licensed in accordance with the requirements of this Section:

1. buildings and structures owned, possessed, or controlled by other persons and contaminated with NORM in excess of the levels set forth in LAC 33:XV.1421; or
2. equipment or land owned, possessed, or controlled by other persons and not otherwise exempted under the provisions of LAC 33:XV.1404.

C. Filing Application for Specific Licenses

1. Applications for specific licenses shall be filed on forms DRC-11 and DRC-13.
2. The department may at any time after the filing of the original application, and before the expiration of the license, require further information in order to determine whether the application should be granted or denied, or whether a license should be modified or revoked.
3. Each application shall be signed by the applicant or licensee, or a person duly authorized to act for and on the licensee's behalf.
4. A license application may include a request for a license authorizing one or more activities.
5. Applications and documents submitted to the department may be made available for public inspection. The department may, however, withhold any document or part thereof from public inspection ~~when a written request for confidentiality is submitted and~~ ~~granted~~ in accordance with LAC 33:I.Chapter 5.
6. Each application for a specific license shall be accompanied by the fee prescribed in LAC 33:XV.2599.

D. Requirements for the Issuance of Specific Licenses

1. A license application will be approved if the department determines that:
 - a. the applicant is qualified by reason of training and experience to handle the material or waste in question for the purpose requested, according to this Section, and in a manner that minimizes danger to public health and safety, property, ~~or~~and the environment;
 - b. the applicant's proposed buildings, structures, equipment, and procedures are adequate to minimize danger to public health and safety, property, ~~or~~and the environment;
 - c. the issuance of the license will not adversely affect the health and safety of the public;
 - d. the applicant has met the financial security requirements of LAC 33:XV.1420;
 - e. the applicant satisfies any applicable special requirements in Sections D.2 and D.3.
2. An application for a specific license to decontaminate equipment or land not otherwise exempted under the provisions of LAC 33:XV.1404 or buildings and structures contaminated with NORM in excess of the levels set forth in LAC 33:XV.1421, as applicable, will be approved if:
 - a. the applicant satisfies the requirements specified in LAC 33:XV.1410.D.1; and
 - b. the applicant has adequately addressed the following items in the application:

i. procedures and equipment for monitoring and protection of workers;

ii. an evaluation of the radiation levels and concentrations of contamination expected during normal operations;

iii. operating and emergency procedures; and

iv. a method of managing the NORM waste removed from contaminated equipment, buildings, structures, and land for disposal or storage.

3. An application for a specific license for persons who receive NORM waste from other persons for processing or disposal, or persons who process NORM for other persons at temporary job sites in accordance with LAC 33:XV.1410.A will be approved if:

a. the applicant satisfies the requirements specified in LAC 33:XV.1410.D.1; and

b. the applicant has adequately addressed the following items in the application:

i. procedures and equipment for monitoring and protection of workers;

ii. an evaluation of the radiation levels and concentrations of contamination expected during normal operations; and

iii. operating and emergency procedures; and

c. additionally, the applicant has adequately addressed the following items in the application if the applicant is a disposal facility:

i. the identity and activity of the radioisotopes received;

ii. ~~the results of~~ procedures for groundwater and stormwater analytical testing;

iii. procedures for addressing results of groundwater and stormwater analytical testing that exceed LAC 33:XV.499 Table II;

iv. procedures for safely receiving the waste and on-site storage of the waste.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq. and 2104.B.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of the Secretary, Legal Affairs and Criminal Investigations Division, LR 48:

§1411. Protection of Workers during Operations

A. Each person subject to the general license requirements in LAC 33:XV.1408 or 1409 or a specific license shall conduct operations in compliance with ~~each of the~~ radiation protection standards for radiation protection set forth in LAC 33:XV.Chapters 4 and ~~10~~LAC 33:XV.1499.Appendix B.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq. and 2104.B.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Nuclear Energy, Nuclear Energy Division, LR 15:737 (September 1989), amended by the Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 18:606 (June 1992), LR 21:27 (January 1995), amended by the Office of the Secretary, Legal Affairs and Criminal Investigations Division, LR 48:

§1412. Treatment, Transfer, and Disposal

A. Each person subject to the general license requirements in LAC 33:XV.1408 or 1409 or subject to a specific license shall manage, treat or dispose of wastes containing NORM in accordance with:

A.1. — D. ...

E. Notifications

RP067S with substantive changes highlighted in yellow

1. Prior to receipt of NORM waste, the disposal facility shall verify that the generator of the waste is registered with the department and has a NORM general license number. The disposal facility shall notify the department if a shipment is rejected, based on rejection procedures approved by the department during application process, after its occurrence becomes known to the licensee. Notification shall be made by telephone at (225) 765-0160 in accordance with LAC 33:I.3923. Within 30 days after making the telephone report, make a written report to the Office of Environmental Compliance using the procedures provided in LAC 33:I.3925.B.

2. If the generator of the waste is not registered with the department, the generator shall submit a Form RPD-36 to the department within three business days.

3. The disposal facility shall notify the department within three business days if a shipment is rejected for elevated activity levels.

a. The disposal facility shall not return the waste to the generator if the generator is not a registered NORM general licensee.

b. If the generator is not registered with the department as a NORM general licensee, the waste facility shall request department approval to temporarily store the waste on-site for less than 90 days.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq. and 2104.B.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 18:606 (June 1992), amended LR 21:27 (January 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2600 (November 2000), amended by the Office of the Secretary, Legal Affairs and Criminal Investigations Division, LR 48:

§1416. Inspections of Storage Tanks Containing NORM Waste

A. As part of an inspection program the licensee shall develop a schedule and procedure for assessing the condition of each tank containing NORM waste. The schedule and procedure shall be adequate to detect cracks, leaks, corrosion, and erosion that may lead to cracks, leaks, or wall thinning to less than the required thickness. Procedures for emptying a tank to allow entry, procedures for personnel protection, and inspection of the interior shall be established when necessary to detect corrosion or erosion of the tank sides and bottom. The frequency of these assessments shall be based on the material of construction of the tank, type of corrosion or erosion protection used, rate of corrosion or erosion observed during previous inspections, and the characteristics of the waste being treated or stored.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq. and 2104.B.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 18:607 (June 1992), amended LR 21:28 (January 1995), amended by the Office of the Secretary, Legal Affairs and Criminal Investigations Division, LR 48:

§1417. Release for Unrestricted Use

A. ...

1. For general or specific licensees that have an area or soil with contamination above the limits of LAC 33:XV.1404 and soil decontamination shall be performed, the decontamination of soil shall be to 5 picocuries per gram above background of radium-226 or radium-228.

2. For general or specific licensees who have equipment with a maximum exposure level above that specified in LAC 33:XV.1404, equipment decontamination shall be performed to reduce the exposure levels below those specified in LAC 33:XV.1404 and ensure that the equipment is free of loose contamination.

3. ...

B. If closure activities involve construction with a subsurface impact to a depth greater than three feet, prior approval by the Office of Environmental Compliance shall be attached as part of the application addressing the certification of the groundwater quality. All pits, ponds, and lagoons shall comply with departmental regulations and/or policies dealing with groundwater quality.

C. — E. ...

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq. and 2104.B.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 18:607 (June 1992), amended LR 21:28 (January 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2600 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2537 (October 2005), LR 33:2189 (October 2007), amended by the Office of the Secretary, Legal Affairs and Criminal Investigations Division, LR 48:

§1418. NORM Manifests

A. ...

B. The manifest form shall be obtained from the department and shall consist of, at a minimum, the number of copies that will provide the licensee, each transporter, and the operator of the designated facility with one copy each for their records with the remaining copies to be returned to the licensee and the other appropriate parties.

C. ...

1. A licensee who transports, or offers for transportation, NORM waste and NORM contaminated equipment to a facility specifically licensed for treatment, decontamination, storage, or disposal shall prepare and sign sufficient copies of a manifest before transporting the NORM off-site.

2. A licensee shall designate on the manifest one facility which is permitted to handle the NORM described on the manifest.

3. If the transporter is unable to deliver the NORM to the designated facility, the licensee shall either designate another facility or instruct the transporter to return the NORM.

4. Licensees shall provide a statement concerning the nature of the material and general guidelines for an emergency situation involving this waste to accompany the manifest on shipments and loads.

5. ...

6. Before initiating a shipment, licensees shall obtain written confirmation of the acceptability of the NORM or NORM waste from the operation of the specifically licensed commercial treatment, decontamination, storage, or disposal facility. The confirmation shall be maintained by the affected licensees as part of their manifest records.

7. The licensee receiving a shipment is required to report to the Office of Environmental Compliance and to the licensee initiating the shipment any irregularities between the NORM actually received by the designated facility and the NORM described on the manifest, or any other irregularities, within 15 days. If the designated facility or receiving licensee is outside the state of Louisiana, the generating or originating licensee shall report the irregularities to the department.

D. Required Information

1. The manifest shall contain all of the following information prior to leaving the licensee's site:

a. — f. ...

2. The certification that appears on the manifest shall be read, signed, and dated by the licensee as follows:

"I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport according to applicable international and national government regulations."

E. ...

1. The licensee shall:

a. — c. ...

2. The licensee shall give the transporter the remaining copies of the manifest.

3. The licensee shall receive the fully signed copy of the manifest from the designated facility within 45 days from the delivery to the initial transporter. In the event the licensee does not receive the signed manifest timely, the licensee shall:

E.3.a. — F.1. ...

2. Before transporting the NORM, the transporter shall sign and date each copy of the manifest acknowledging acceptance of the NORM from the licensee or previous transporter and return a signed copy to the licensee or previous transporter.

F.3. — G. ...

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq. and 2104.B.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 18:608 (June 1992), amended LR 21:28 (January 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2600 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2537 (October 2005), LR 33:2189 (October 2007), amended by the Office of the Secretary, Legal Affairs and Criminal Investigations Division, LR 48:

§1420. Financial Security Requirements for NORM ~~Treaters or Storer's~~ Treatment,

Storage, or Disposal

A. Each general or specific licensee that stores NORM or NORM waste for greater than 90 days, and each specific licensee that leases or owns a physical location and that physically or chemically treats or stores NORM or NORM waste shall post with the department financial security to ensure the protection of the public health and safety and the environment in the event of abandonment, default, or other inability or unwillingness of the licensee to meet the requirements of the Act and these rules. Financial security shall:

1. name the department as beneficiary with a bond issued by a fidelity or surety company authorized to do business in Louisiana, a personal bond secured by such collateral as the department deems satisfactory, a cash bond, a liability endorsement, or a letter of credit. The amount of the bond, liability endorsement, or letter of credit shall be equal to or greater than the amount of the security required. Any security shall be available in Louisiana and subject to judicial process and execution in the event required for the purposes set forth in this Section, and be continuous for the term of the license;

A.2. — E. ...

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq. and 2104.B.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 18:609 (June 1992), amended LR 21:30 (January 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2601 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2537 (October 2005), LR 33:2189 (October 2007)., amended by the Office of the Secretary, Legal Affairs and Criminal Investigations Division, LR 48:

§1421. Acceptable Surface Contamination Levels for NORM

A. The following table is to be used in determining compliance with LAC 33:XV.332 and 1408.

	Average ^{bcf}	Maximum ^{bdf}	Removable ^{bcef}

NORM ^a	5,000 dpm/100 cm ²	15,000 dpm/100 cm ²	1,000 dpm/100 cm ²
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^a Surfaces suspected of being contaminated with alpha and beta emitting naturally occurring radionuclides shall be surveyed with detectors that respond to alpha and beta radiation. The same method shall be employed when evaluating wipe samples for removable contamination.

^b As used in this table, dpm (disintegrations per minute) means the rate of emission by naturally occurring radioactive material as determined by using a ratemeter or scaler and detector appropriate for the type and energy of emissions being monitored. The detector shall be capable of responding to alpha, beta, and/or gamma radiations.

^c Measurements of average contamination level shall not be averaged over more than 1 m². For objects of less surface area, the average shall be derived for each object.

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

^e The amount of removable radioactive material per 100 cm² of surface area shall be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of less surface area is determined, the pertinent levels should be reduced proportionally and the entire surface shall be wiped.

^f All surveys and efficiency determinations shall be made with the detector's active surface no greater than one centimeter from the surface being surveyed, wipe being analyzed, or check source being used. A scaler shall be used when evaluating wipe samples and count times shall be sufficient to detect 10 percent of the applicable limit with 95 percent confidence that the activity would be detected.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq. and 2104.B.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of the Secretary, Legal Affairs and Criminal Investigations Division, LR 48:

§1499. Appendices A, B, and C

Appendix A

Subjects to be Included in Training Courses for Individuals Performing NORM Surveys

The following outline describes the subjects that individuals shall demonstrate competence in prior to being approved as a NORM surveyor.

I. — III. ...

Appendix B

Detailed development of the following shall be included in the required worker protection plan:

I. — VI. ...

VII. Other operational procedures.

For operations that have the potential to produce NORM contaminated dusts (i.e., cutting, grinding, sand-blasting, welding, drilling, polishing, or handling soil) or when loose contamination is suspected, the following additional precautions shall be taken:

I. ...

II. Safety glasses shall be worn for eye protection.

III. ...

IV. Ground covers shall be utilized to the extent possible to contain contaminants and facilitate cleanup.

V. ...

In addition to the general requirements given above, there may be industrial operations such as vessel entry, dismantling of equipment, refurbishing of equipment, or transportation, which may require additional precautionary procedures which shall be included in the worker protection procedures submitted to the department.

Appendix C. ...

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq. and 2104.B.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 18:609 (June 1992), amended LR 21:30 (January 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2601 (November 2000), amended by the Office of the Secretary, Legal Affairs and Criminal Investigations Division, LR 48: