

**Title 33
ENVIRONMENTAL QUALITY
Part XV. Radiation Protection**

Chapter 3. Licensing of ~~Byproduct~~Radioactive Material

Subchapter D. Specific Licenses

§325. General Requirements for the Issuance of Specific Licenses

A. – D.5. ...

6. Each decommissioning funding plan shall be submitted for review and approval, and shall contain:

a. a detailed cost estimate for decommissioning, in an amount reflecting:

i. the cost of an independent contractor to perform all decommissioning activities;

ii. the cost of meeting the criteria in LAC 33:XV.332.D.1.iii for unrestricted use, provided that, if the applicant or licensee can demonstrate its ability to meet the provisions of LAC 33:XV. 332.F, the cost estimate may be based on meeting the criteria in LAC 33:XV.332.F;

iii. the volume of on-site subsurface material containing residual radioactivity that will require remediation to meet the criteria for license termination; and

iv. an adequate contingency factor; and

b. identification of and justification for using the key assumptions contained in the decommissioning cost estimate; and

c. a description of the method of assuring funds for decommissioning from Paragraph D.78 of this Section, including means of adjusting cost estimates and associated funding levels periodically over the life of the facility; ~~Cost estimates shall be adjusted at intervals not to exceed three years. The decommissioning funding plan shall also contain~~

d. _____ a certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning; and

e. _____ a signed original of the financial instrument obtained to satisfy the requirements of Paragraph D.78 of this Section (unless a previously submitted and accepted financial instrument continues to cover the cost estimate for decommissioning).

7. At the time of license renewal and at intervals not to exceed three years, the decommissioning funding plan shall be resubmitted with adjustments as necessary to account for changes in costs and the extent of contamination. If the amount of financial assurance will be adjusted downward, this cannot be done until the updated decommissioning funding plan is approved. The decommissioning funding plan shall update the information submitted with the original or prior approved plan, and shall specifically consider the effect of the following events on decommissioning costs:

a. _____ spills of radioactive material producing additional residual radioactivity in on-site subsurface material;

b. _____ waste inventory increasing above the amount previously estimated;

c. _____ waste disposal costs increasing above the amount previously estimated;

d. _____ facility modifications;

e. _____ changes in authorized possession limits;

f. _____ actual remediation costs that exceed the previous cost estimate;

g. _____ on-site disposal; and

h. _____ use of a settling pond.

78. Financial assurance for decommissioning shall be provided by one or more of the following methods.

a. Prepayment. Prepayment is the deposit prior to the start of operation into an account segregated from licensee assets and outside the licensee's administrative control of cash or liquid assets such that the amount of funds would be sufficient to pay decommissioning costs. Prepayment may be

in the form of a trust, escrow account, government fund, certificate of deposit, or deposit of government securities.

b. Surety Method, Insurance, or Other Guarantee Method. These methods guarantee that decommissioning costs will be paid. A surety method may be in the form of a surety bond, letter of credit, or line of credit. A parent company guarantee of funds for decommissioning costs based on a financial test may be used if the guarantee and test are as contained in LAC 33:XV.399.Appendix B. A parent company guarantee may not be used in combination with other financial methods to satisfy the requirements of this Section. For commercial corporations that issue bonds, a guarantee of funds by the applicant or licensee for decommissioning costs based on a financial test may be used if the guarantee and test are as contained in LAC 33:XV.399.Appendix B. For commercial companies that do not issue bonds, a guarantee of funds by the applicant or licensee for decommissioning costs may be used if the guarantee and test are as contained in LAC 33:XV.399.Appendix E. For nonprofit entities, such as colleges, universities, and nonprofit hospitals, a guarantee of funds by the applicant or licensee may be used if the guarantee and test are as contained in LAC 33:XV.399.Appendix F. A guarantee by the applicant or licensee may not be used in combination with any other financial methods used to satisfy the requirements of this Section or in any situation where the applicant or licensee has a parent company holding majority control of the voting stock of the company. Any surety method or insurance used to provide financial assurance for decommissioning shall contain the following conditions.

i. The surety method or insurance must be open-ended or, if written for a specified term, such as five years, must be renewed automatically unless 90 days or more prior to the renewal date, the issuer notifies the Office of Environmental Compliance, the beneficiary, and the licensee of its intention not to renew. The surety method or insurance must also provide that the full face amount be paid to the beneficiary automatically prior to the expiration without proof of forfeiture if the licensee fails to provide a replacement acceptable to the department within 30 days after receipt of notification of cancellation.

ii. The surety method or insurance must be payable to a trust established for decommissioning costs. The trustee and trust must be acceptable to the department. An acceptable trustee includes an appropriate state or federal government 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.

iii. The surety method or insurance must remain in effect until the department has terminated the license.

c. External Sinking Fund. An external sinking fund shall have deposits made to it at least annually, and be coupled with a surety method or insurance, the value of which may decrease by the amount being accumulated in the sinking fund. An external sinking fund is a fund established and maintained by setting aside funds periodically in an account segregated from licensee assets and outside the licensee's administrative control in which the total amount of funds would be sufficient to pay decommissioning costs at the time termination of operation is expected. An external sinking fund may be in the form of a trust, escrow account, government fund, certificate of deposit, or deposit of government securities. The surety or insurance provisions must be as stated in Subparagraph D.78.b of this Section.

d. Statement of Intent. In the case of federal, state, or local government licensees, a statement of intent shall be included containing a cost estimate for decommissioning or an amount based on the table in Paragraph D.5 of this Section, and indicating that funds for decommissioning will be obtained when necessary.

e. Arrangement with Governmental Entity. When a governmental entity is assuming custody and ownership of a site, an arrangement shall be made that is deemed acceptable by such governmental entity.

89. Each person licensed under this Chapter shall keep records of information important to the decommissioning of the facility in an identified location until the site is released for unrestricted use. Before licensed activities are transferred or assigned in accordance with LAC 33:XV.331.B, licensees shall transfer all records described in this Paragraph to the new licensee. In this case, the new licensee will be

responsible for maintaining these records until the license is terminated. If records important to the decommissioning of a facility are kept for other purposes, reference to these records and their locations may be used. Information the department considers important to decommissioning consists of the following:

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

b. as-built drawings and modifications of structures and equipment in restricted areas where radioactive materials are used and/or stored, and of locations of possible inaccessible contamination such as buried pipes that may be subject to contamination. If required drawings are referenced, each relevant document need not be indexed individually. If drawings are not available, the licensee shall substitute appropriate records of available information concerning these areas and locations;

c. records of the cost estimate performed for the decommissioning funding plan or of the amount certified for decommissioning, and records of the funding method used for assuring funds if either a funding plan or certification is used;

d. except for areas containing only sealed sources (provided the sources have not leaked or no contamination remains after any leakage has occurred) or radioactive materials having only half-lives of less than 65 days, a list contained in a single document and updated every two years that shall be kept on the following:

i. all areas designated and formerly designated *restricted areas* as defined in LAC 33:XV.102;

ii. all areas outside of restricted areas that require documentation under Subparagraph D.89.a of this Section;

iii. all areas outside of restricted areas where current and previous wastes have been buried, as documented under LAC 33:XV.478; and

iv. all areas outside of restricted areas that contain material such that, if the license expired, the licensee would be required to either decontaminate the area to meet the criteria for decommissioning in LAC 33:XV.332.E, or apply for approval for disposal under LAC 33.XV.461.

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

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 18:34 (January 1992), LR 23:1140 (September 1997), LR 24:2091 (November 1998), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:1017 (May 2000), LR 26:2568 (November 2000), LR 27:1227 (August 2001), amended by the Office of Environmental Assessment, LR 31:44 (January 2005), LR 31:1578 (July 2005), amended by the Office of the Secretary, Legal Affairs Division, LR 33:2178 (October 2007), amended by the Office of the Secretary, Legal Division, LR 40:1927 (October 2014), LR 41:**.

§331. Specific Terms and Conditions of Licenses

A. – B. ...

1. An application for transfer of license shall include the identity, technical and financial qualifications of the proposed transferee, and financial assurance for decommissioning information required by this Chapter.

C. – F. ...

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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 18:34 (January 1992), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2571 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2527 (October 2005), LR 33:2180 (October 2007), amended by the Office of the Secretary, Legal Division, LR 40:1928 (October 2014), LR 41:**.

§332. Expiration and Termination of Licenses and Decommissioning of Sites and Separate Buildings or Outdoor Areas

A. – E.2. ...

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

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

2. the licensee has made provisions for legally enforceable institutional controls that provide reasonable assurance that the *total effective dose equivalent* (TEDE), as defined in LAC 33:XV.102, from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 25 mrem (0.25 mSv) per year;

3. the licensee has provided sufficient financial assurance to enable an independent third party, including a governmental custodian of a site, to assume and carry out responsibilities for any necessary control and maintenance of the site. Acceptable financial assurance mechanisms include:

a. funds placed into a trust segregated from the licensee's assets and outside the licensee's administrative control, and in which the adequacy of the trust funds is to be assessed based on an assumed annual one percent real rate of return on investment;

b. a statement of intent in the case of federal, state, or local government licensees, as described in LAC 33:XV.325.D.7.d; or

c. when a governmental entity is assuming custody and ownership of a site (an arrangement that is deemed acceptable by such governmental entity); and

4. the licensee has submitted a decommissioning plan or License Termination Plan (LTP) to the department indicating the licensee's intent to decommission in accordance with Subparagraph D.6.a of this Section, and specifying that the licensee intends to decommission by restricting use of the site. The licensee shall document in the LTP or decommissioning plan how the advice of individuals and institutions in the community who may be affected by the decommissioning has been sought and incorporated, as appropriate, following analysis of that advice;

a. licensees proposing to decommission by restricting use of the site shall seek advice from such affected parties regarding the following matters concerning the proposed decommissioning:

i. whether provisions for institutional controls proposed by the licensee:
(a). will provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 25 mrem (0.25 mSv) TEDE per year;

(b). will be enforceable; and
(c). will not impose undue burdens on the local community or other affected parties; and

ii. whether the licensee has provided sufficient financial assurance to enable an independent third party, including a governmental custodian of a site, to assume and carry out responsibilities for any necessary control and maintenance of the site;

b. in seeking advice on the issues identified in Subparagraph F.4.a of this Section, the licensee shall provide for:

i. participation by representatives of a broad cross section of community interests who may be affected by the decommissioning;

ii. an opportunity for a comprehensive, collective discussion on the issues by the participants represented; and

iii. a publicly available summary of the results of all such discussions, including a description of the individual viewpoints of the participants on the issues and the extent of agreement and disagreement among the participants on the issues; and

5. residual radioactivity at the site has been reduced so that if the institutional controls were no longer in effect, there is reasonable assurance that the TEDE from residual radioactivity

distinguishable from background to the average member of the critical group is as low as reasonably achievable and would not exceed either:

a. 100 mrem (1 mSv) per year; or

b. 500 mrem (5 mSv) per year provided the licensee:

i. demonstrates that further reductions in residual radioactivity necessary to comply with the 100 mrem/y (1 mSv/y) value of Subparagraph F.5.a of this Section are not technically achievable, would be prohibitively expensive, or would result in net public or environmental harm;

ii. makes provisions for durable institutional controls; and

iii. provides sufficient financial assurance to enable a responsible government entity or independent third party, including a governmental custodian of a site, both to carry out periodic rechecks of the site no less frequently than every five years to assure that the institutional controls remain in place as necessary to meet the criteria of Paragraph F.2 of this Section, and to assume and carry out responsibilities for any necessary control and maintenance of those controls (acceptable financial assurance mechanisms are those in Paragraph F.3 of this Section).

G. Alternate Criteria for License Termination

1. The department may terminate a license using alternate criteria greater than the dose criterion in this Section if the licensee:

a. provides assurance that public health and safety would continue to be protected, and that it is unlikely that the dose from all man-made sources combined, other than medical, would be more than the 1 mSv/y (100 mrem/y) limit in LAC 33:XV.421 and 422, by submitting an analysis of possible sources of exposure;

b. has employed to the extent practical restrictions on site use according to the provisions of Subsection F of this Section in minimizing exposures at the site;

c. reduces doses to ALARA levels, taking into consideration any detriments such as traffic accidents expected to potentially result from decontamination and waste disposal;

d. _____ has submitted a decommissioning plan or License Termination Plan (LTP) to the department indicating the licensee's intent to decommission in accordance with Subparagraph D.6.a of this Section, and specifying that the licensee proposes to decommission by use of alternate criteria. The licensee shall document in the decommissioning plan or LTP how the advice of individuals and institutions in the community who may be affected by the decommissioning has been sought and addressed, as appropriate, following analysis of that advice. In seeking such advice, the licensee shall provide for:

i. _____ participation by representatives of a broad cross section of community interests who may be affected by the decommissioning;

ii. _____ an opportunity for a comprehensive, collective discussion on the issues by the participants represented; and

iii. _____ a publicly available summary of the results of all such discussions, including a description of the individual viewpoints of the participants on the issues and the extent of agreement and disagreement among the participants on the issues; and

e. _____ has provided sufficient financial assurance in the form of a trust fund to enable an independent third party, including a governmental custodian of a site, to assume and carry out responsibilities for any necessary control and maintenance of the site.

2. _____ The use of alternate criteria to terminate a license requires the approval of the department after consideration of the staff's recommendations that will address any comments provided by the Nuclear Regulatory Commission, the Environmental Protection Agency, and any public comments submitted in accordance with Subsection H of this Section.

H. _____ Public Notification and Public Participation

1. _____ Upon the receipt of an LTP or decommissioning plan from the licensee, or a proposal by the licensee for release of a site in accordance with Subsection F or G of this Section, or whenever the department deems such notice to be in the public interest, the department shall:

a. _____ notify and solicit comments from:

i. local and state governments in the vicinity of the site and any Indian nation or other indigenous people that have treaty or statutory rights that could be affected by the decommissioning; and

ii. the Environmental Protection Agency for cases where the licensee proposes to release a site in accordance with Subsection G of this Section; and

b. publish a notice in the *Louisiana Register* and in a forum, such as local newspapers, letters to state or local organizations, or other appropriate forum that is readily accessible to individuals in the vicinity of the site, and solicit comments from affected parties.

I. Minimization of Contamination

1. Applicants for licenses, other than early site permits and manufacturing licenses under 10 CFR 52 and renewals, whose applications are submitted after August 20, 1997, shall describe in the application how facility design and procedures for operation will minimize, to the extent practicable, contamination of the facility and the environment, facilitate eventual decommissioning, and minimize, to the extent practicable, the generation of radioactive waste.

2. Licensees shall, to the extent practical, conduct operations to minimize the introduction of residual radioactivity into the site, including the subsurface, in accordance with the existing radiation protection requirements in LAC 33:XV.406 and radiological criteria for license termination in this Section.

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

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 18:34 (January 1992), LR 24:2094 (November 1998), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2571 (November 2000), LR 26:2768 (December 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2527 (October 2005), LR 33:2180 (October 2007), LR 41:**.

Chapter 4. Standards for Protection against Radiation

Subchapter C. Surveys and Monitoring

§430. General

A. Each licensee or registrant shall make, or cause to be made, surveys of areas, including the subsurface, that:

1. ~~are~~may be necessary for the licensee or registrant to comply with this Chapter; and
2. are ~~necessary~~reasonable under the circumstances to evaluate:
 - a. the magnitude and extent of radiation levels;
 - b. ...
 - c. the potential radiological hazards of the radiation levels and residual

radioactivity detected that could be present.

B. – D. ...

E. Notwithstanding LAC 33:XV.472.A, records from surveys describing the location and amount of subsurface residual radioactivity identified at the site shall be kept with records important for decommissioning, and such records shall be retained in accordance with LAC 33:XV.325.D.9 as applicable.

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

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Chapter 17. Licensing and Radiation Safety Requirements for Irradiators

§1755. Records and Retention Periods

A. – B.4. ...

5. records related to decommissioning of the irradiator, as required by LAC

33:XV.325.D.78.

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(November 2000), LR 29:1471 (August 2003), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2538 (October 2005), LR 33:2190 (October 2007), LR 41:**.