

**From:** Cindy Cardwell <Cindy.Cardwell@tdh.state.tx.us>  
**To:** "jmp1@nrc.gov" <jmp1@nrc.gov>  
**Date:** 6/27/02 11:59AM  
**Subject:** Proposed TX rule changes

Hi Josie,

Attached are three rule revisions we will have proposed as of tomorrow. None of the revisions to the three different sections are items of compatibility, but are a result of legislation and the need to tweak some things. I've noted in the letter that they are being provided for informational purposes.

I hope the modifications to the letter and the informational nature of these doesn't muck up the system too much!

Please let me know if you need anything else.

Thanks,  
Cindy



# Texas Department of Health

Eduardo J. Sanchez, M.D., M.P.H.  
Commissioner of Health

1100 West 49th Street  
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Radiation Control  
(512) 834-6688

July 28, 2002

Ms. Josephine Piccone  
Deputy Director  
Office of State and Tribal Programs  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Dear Ms. Piccone:

Enclosed is a copy of the proposed revisions to the Texas Regulations for Control of Radiation, 25 Texas Administrative Code, §289.254, "Licensing of Waste Processing and Storage Facilities."

The proposed revisions were made available for public comment on June 28, 2002 with a request for comments by July 29, 2002. The rule was extensively reformatted. Therefore, it is proposed with complete new language. The significant revisions are as shown below. These revisions are not items of compatibility but are being provided for informational purposes.

NRC Regulation	FR Notice (State Due Date)	RATS ID	Texas Regulation*	Final Texas Regulation (Effective Date)**
Submission of facility drawings by professional engineer	Not compatibility item	N/A	§289.254(f)(6)	
System for maintaining inventory of radioactive waste	Not compatibility item	N/A	§289.254(g)(19)	
Financial qualifications as per state legislation	Not compatibility item	N/A	§289.254(g)(20)	
Request for	Not	N/A	§289.254(i)(2)	

additional information by agency after license is issued	compatibility item			
Add agency approval to increase/decrease financial assurance	Not compatibility item	N/A	§289.254(m)(4)	
Increase in amounts of specified financial assurance to adjust for inflation	Not compatibility item	N/A	§289.254(n)(3)	

If you have any questions, please feel free to contact me at 512-834-6688 or [Cindy.Cardwell@tdh.state.tx.us](mailto:Cindy.Cardwell@tdh.state.tx.us).

Sincerely,

Cynthia C. Cardwell, Deputy Director  
Standards and Special Projects  
Bureau of Radiation Control  
Texas Department of Health



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Ms. Josephine Piccone  
Deputy Director  
Office of State and Tribal Programs  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Dear Ms. Piccone:

Enclosed is a copy of the proposed revisions to the Texas Regulations for Control of Radiation, 25 Texas Administrative Code, §289.260, "Licensing of Uranium Recovery and Byproduct Material Disposal Facilities."

The proposed revisions were made available for public comment on June 28, 2002 with a request for comments by July 29, 2002. The proposed regulations are identified by underlining for new language and bold-face and brackets for deleted language. These revisions are not items of compatibility, but are being provided for informational purposes.

NRC Regulation	FR Notice (State Due Date)	RATS ID	Texas Regulation*	Final Texas Regulation (Effective Date)**
Financial qualifications as per state legislation	Not a compatibility item	N/A	§289.260(d)(5)	
Denial of application	Not a compatibility item	N/A	§289.260(d)(12)	
Qualifications of RSO	Not a compatibility item	N/A	§289.260(e)(4)	
Submission of facility drawings by professional	Not a compatibility item	N/A	§289.260(f)(3) & (j)(1)	

engineer				
Request for additional information by agency after license is issued	Not a compatibility item	N/A	§289.260(g)(3)	
Unrestricted use of outdoor areas	Not a compatibility item	N/A	§289.260(i)(4)	

If you have any questions, please feel free to contact me at 512-834-6688 or [Cindy.Cardwell@tdh.state.tx.us](mailto:Cindy.Cardwell@tdh.state.tx.us).

Sincerely,

Cynthia C. Cardwell, Deputy Director  
Standards and Special Projects  
Bureau of Radiation Control  
Texas Department of Health

LEGEND: (Proposed Amendments)

Single Underline = Proposed new language

**[Bold Print and Brackets]** = Current language proposed for deletion

Regular Print = Current language

(No change.) = No changes are being considered for designated subdivisions

§289.252. Licensing of Radioactive Material.

(a)-(c) (No change.)

(d) Filing application for specific licenses. The agency may, at any time after the filing of the original application, require further statements in order to enable the agency to determine whether the application should be denied or the license should be issued.

(1) (No change.)

(2) Each application shall be signed by the chief executive officer or other individual delegated the authority to manage, direct, or administer the licensee's activities [management].

(3)-(5) (No change.)

(6) Each applicant shall demonstrate to the agency that the applicant is financially qualified to conduct the activity requested for licensure, including any required decontamination, decommissioning, reclamation, and disposal before the agency issues a license. Each licensee shall demonstrate to the agency that it remains financially qualified to conduct the licensed activity before a license is renewed. Methods for demonstrating financial qualifications are specified in subsection (ii)(8) of this section. The requirement for demonstration of financial qualification is separate from the requirement specified in subsection (gg) of this section for certain applicants or licensees to provide financial assurance in conjunction with a decommissioning funding plan.

(7) If facility drawings submitted in conjunction with the application for a license are prepared by a professional engineer or engineering firm, those drawings shall be final and shall be signed, sealed and dated in accordance with the requirements of the Texas Board of Professional Engineers, 22 Texas Administrative Code, Chapter 131.

(8)[(6)] Applications for licenses shall be processed in accordance with the following time periods

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(A) The first period is the time from receipt of an application by the Division of Licensing, Registration and Standards to the date of issuance or denial of the license or a written notice outlining why the application is incomplete or unacceptable. This time period is 60 days.

(B) The second period is the time from receipt of the last item necessary to complete the application to the date of issuance or denial of the license. This time period is 30 days.

(C) These time periods are exclusive of any time period incident to hearings and post-hearing activities required by the Government Code, Chapter 2001.

(9)[(7)] Notwithstanding the provisions of §289.204(e)(1) of this title, reimbursement of application fees may be granted in the following manner.

(A) In the event the application is not processed in the time periods as stated in paragraph (8) [(6)] of this subsection, the applicant has the right to request of the director of the Radiation Control Program full reimbursement of all application fees paid in that particular application process. If the director does not agree that the established periods have been violated or finds that good cause existed for exceeding the established periods, the request will be denied.

(B) Good cause for exceeding the period established is considered to exist if:

(i) the number of applications for licenses to be processed exceeds by 15% or more the number processed in the same calendar quarter the preceding year;

(ii) another public or private entity utilized in the application process caused the delay; or

(iii) other conditions existed giving good cause for exceeding the established periods.

(C) If the request for full reimbursement authorized by subparagraph (A) of this paragraph is denied, the applicant may then request a hearing by appeal to the Commissioner of Health for a resolution of the dispute. The appeal will be processed in accordance with the Formal Hearing Procedures, §§ 1.21, 1.23, 1.25, 1.27 [§1.21-1.34] of this title (relating to the Texas Board of Health).

(10)[(8)] Applications for licenses may be denied for the following reasons:

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(A) any material false statement in the application or any statement of fact required under provisions of the Texas Radiation Control Act (Act); **[and]**

(B) conditions revealed by the application or statement of fact or any report, record, or inspection, or other means that would warrant the agency to refuse to grant a license on an application; or [.]

(C) failure to clearly demonstrate how these requirements have been addressed.

(e) General requirements for the issuance of specific licenses. A license application will be approved if the agency determines that:

(1)-(8) (No change.)

(9) the owner of the property is aware that radioactive material is stored **[and/or used]** on the property, if the proposed storage facility is not owned by the applicant. The applicant shall provide a written statement from the owner, or from the owner's agent, indicating such. This paragraph does not apply to property owned or held by a government entity or to property on which radioactive material is used under an authorization for temporary job site use.

(10) there is no reason to deny the license as specified in subsection (d)(10) of this section.

(f)-(n) (No change.)

(o) Specific licenses for the manufacture and commercial distribution of sealed sources or devices containing radioactive material for medical use. In addition to the requirements in subsection (e) of this section, a specific license to manufacture and commercially distribute sealed sources and devices containing radioactive material to persons licensed for use of sealed sources in the healing arts for use as a calibration or reference source will be issued if the agency approves the following information submitted by the applicant:

(1) an evaluation of the radiation safety of each type of sealed source or device including the following:

(A)-(G) (No change.)

(H) procedures for disposition of unwanted or unused radioactive material;  
**[and]**

(2)-(4) (No change.)

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(p) Specific licenses for the manufacture and commercial distribution of radioactive material for certain *in vitro* clinical or laboratory testing in accordance with the general license. In addition to the requirements in subsection (e) of this section, a specific license to manufacture or commercially distribute radioactive material for use in accordance with the general license in §289.251(k)(2) of this title will be issued if the agency approves the following information submitted by the applicant:

(1) (No change.)

(2) that each prepackaged unit bears a durable, clearly visible label:

(A) (No change.)

(B) displaying the radiation caution symbol in accordance with §289.202(z) of this title and the words, "CAUTION, RADIOACTIVE MATERIAL," and "Not for Internal or External Use in Humans or Animals;\_["";]

(3)-(4) (No change.)

(q)-(r) (No change.)

(s) Specific licenses for the manufacture and commercial distribution of products containing depleted uranium for mass-volume applications.

(1)-(3) (No change.)

(4) Each person licensed in accordance with paragraph (1) of this subsection shall:

(A)-(B) (No change.)

(C) assure that before being installed in each product or device, the depleted uranium has been impressed with the following legend clearly legible through any plating or other covering: "Depleted Uranium;\_["";]

(D) furnish a copy of the following:

(i) the general license in §289.251(g)(5) of this title to each person to whom the licensee commercially distributes depleted uranium in a product or device for use in accordance with the general license in §289.251(g)(5) of this title;[, or]

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(ii)-(iii) (No change.)

(E)-(G) (No change.)

(t)-(v) (No change.)

(w) Issuance of specific licenses.

(1)-(2) (No change.)

(3) The agency may also request additional information after the license has been issued to enable the agency to determine whether the license should be modified.

(x) (No change.)

(y) Expiration and termination of licenses and decommissioning of sites and separate buildings or outdoor areas.

(1)-(2) (No change.)

(3) Within 60 days of the occurrence of any of the following, each licensee shall provide notification to the agency in writing and either begin decommissioning its site, or any separate building or outdoor area that contains residual radioactivity, so that the building and/or outdoor area is suitable for release in accordance with §289.202(eee) of this title, or submit within 12 months of notification a decommissioning plan, if required by paragraph (6) of this subsection, and begin decommissioning upon approval of that plan if:

(A) the license has expired in accordance with this subsection or subsection (dd)(3) of this section; **[or]**

(B) the licensee has decided to permanently cease principal activities, as defined in §289.201(b) of this title, at the entire site or in any separate building or outdoor area; **[or]**

(C)-(D) (No change.)

(4) Coincident with the notification required by paragraph (3) of this subsection, the licensee shall maintain in effect all decommissioning financial assurances established by the licensee in accordance with subsection (gg) of this section in conjunction with a license issuance or renewal or as required by this section. The amount of the financial assurance shall be increased, or may be decreased, as appropriate, with agency approval, to cover the detailed cost estimate for decommissioning established in accordance with paragraph (9)(E) of this subsection.

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(5)-(13) (No change.)

(14) As the final step in decommissioning, the licensee shall do the following:

(A) (No change.)

(B) conduct a radiation survey of the premises where the licensed activities were carried out and submit a report of the results of this survey unless the licensee demonstrates that the premises are suitable for release in accordance with the radiological requirements for license termination specified in §289.202(ddd) of this title. The licensee shall do the following, as appropriate:

(i) report the following levels:

(I) gamma radiation in units of microroentgen per hour ( $\mu$ R/hr) (millisieverts per hour (mSv/hr)) at 1 meter (m) from surfaces;

(II) radioactivity, including alpha and beta, in units of disintegrations per minute (dpm) or microcuries ( $\mu$ Ci) (megabecquerels (MBq)) per 100 square centimeters (cm<sup>2</sup>) for surfaces;

(III)  $\mu$ Ci (MBq) per milliliter for water; and

(IV) picocuries (pCi) (becquerels (Bq)) per gram (g) for solids such as soils or concrete; and

**[(i) report levels of gamma radiation in units of millisieverts per hour (mSv/hr) (microroentgen per hour ( $\mu$ R/hr)) at 1 meter from surfaces, and report levels of radioactivity, including alpha and beta, in units of megabecquerels (MBq) (disintegrations per minute (dpm) or  $\mu$ Ci per 100 cm<sup>2</sup> for both removable and fixed for surfaces, MBq ( $\mu$ Ci) per milliliter (ml) for water, and becquerels (Bq) (picocuries (pCi)) per gram (g) for solids such as soils or concrete; and]**

(ii) (No change.)

(15) The agency will provide written notification to specific licensees **[licenses]**, including former licensees **[licenses]** with provisions continued in effect beyond the expiration date in accordance with subsection (y)(2) of this section, that the provisions of the license are no longer binding. The agency will provide such notification when the agency determines that:

(A)-(B) (No change.)

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(C) a radiation survey has been performed that demonstrates that the premises are suitable for release in accordance with the radiological requirements for license termination specified in §289.202(ddd) of this title[,] or other information submitted by the licensee is sufficient to demonstrate that the premises are suitable for release in accordance with the radiological requirements for license termination specified in §289.202(ddd) of this title; and

(D) (No change.)

(16) (No change.)

(z) Renewal of license.

(1) Requests for renewal of specific licenses shall be filed in accordance with subsection (d)(1)-(3) and ~~(5)-(7)~~ [(5)] of this section. In any application for renewal, the applicant may incorporate drawings by reference.

(2) (No change.)

(aa)-(cc) (No change.)

(dd) Modification and revocation of licenses.

(1) The terms and conditions of all licenses shall be subject to amendment, revision, or modification. A license may be suspended or revoked by reason of amendments to the Act, [or] by reason of rules in this chapter, or [and] orders issued by the agency.

(2) Any license may be revoked, suspended, or modified, in whole or in part, for any of the following:

(A)-(B) (No change.)

(C) violation of, or failure to observe any of the terms and conditions of the Act, this chapter, [or of] the license, or order of the agency.

(3) Each specific license revoked by the agency ends at the end of the day on the date of the agency's final determination to revoke the license, or on the revocation date stated in the determination, or as otherwise provided by the agency order.

4) Except in cases in which the occupational and public health, interest or safety requires otherwise, no license shall be modified, suspended, or revoked unless, prior to the institution of proceedings therefore, facts or conduct that may warrant such action shall have been called to the attention of the licensee in writing and the licensee shall have been afforded an

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opportunity to demonstrate compliance with all lawful requirements.

(ee) Reciprocal recognition of licenses.

(1) Subject to this section, any person who holds a specific license from the NRC, any agreement state, or any licensing state, and 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 granted a general license to conduct the activities authorized in such licensing document within the state of Texas provided that:

(A) (No change.)

(B) the out-of-state licensee notifies the agency in writing at least three working days prior to engaging in such activity. If, for a specific case, the three working-day period would impose an undue hardship on the out-of-state licensee, the licensee may, upon application to the agency, obtain permission to proceed sooner. The agency 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 in accordance with the general license provided in this subsection. Such notification shall include:

(i) the exact location, start date, duration, and type of activity to be conducted;

(ii)-(vi) (No change.)

(C)-(E) (No change.)

(2) In addition to the provisions of paragraph (1) of this subsection, any person who holds a specific license issued by the NRC, an agreement state, or a licensing state authorizing the holder to manufacture, transfer, install, or service the device described in §289.251 (h)(1)(C) and (k)(1) of this title, within areas subject to the jurisdiction of the licensing body, is granted a general license to install, transfer, demonstrate, or service the device in the state of Texas provided that:

(A)-(B) (No change.)

(C) the person assures that any labels required to be affixed to the device in accordance with requirements of the authority that licensed manufacture of the device bear a statement that "Removal of this label is prohibited;"[";"] and

(D) (No change.)

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(3) (No change.)

(ff) (No change.)

(gg) Financial assurance and record keeping for decommissioning.

(1) The applicant for or holder of each specific license authorizing the possession and use of unsealed radioactive material with a half-life greater than 120 days and in quantities exceeding  $10^5$  times the applicable quantities set forth in subsection (ii)(2) of this section shall submit a decommissioning funding plan as described in paragraph (4)~~[(5)]~~ of this subsection in an amount sufficient to allow the agency to engage a third party to decommission the site(s) specified on the license. The decommissioning funding plan shall also be submitted when a combination of isotopes is involved if  $R$  divided by  $10^5$  is greater than 1 (unity rule), where  $R$  is defined as the sum of the ratios of the quantity of each isotope to the applicable value in subsection (ii)(2) of this section. Those persons who receive, possess, or process sealed sources as radioactive waste from other persons and who are exempt from §289.254 of this title shall submit a decommissioning funding plan as described in paragraph (4) of this subsection in an amount sufficient to allow the agency to engage a third party to decommission the site(s) specified on the license. Persons who receive, possess, or process sealed sources of radioactive material from other persons for recycle or beneficial reuse and store the sealed sources of radioactive material for longer than two years, are considered to be receiving, possessing, or processing sealed sources of radioactive material as radioactive waste from other persons and shall submit a decommissioning funding plan as described in paragraph (4) of this subsection in an amount sufficient to allow the agency to engage a third party to decommission the site(s) specified on the license.

(2) The applicant for or holder of each specific license authorizing possession and use of radioactive material of half-life greater than 120 days and in quantities specified in paragraph (3) ~~[(4)]~~ of this subsection shall either:

(A) submit a decommissioning funding plan as described in paragraph (4)~~[(5)]~~ of this subsection in an amount sufficient to allow the agency to engage a third party to decommission the site(s) specified on the license; or

(B) submit **[a certification that]** financial assurance for decommissioning **[has been provided]** in the amount in accordance with paragraph (3)~~[(4)]~~ of this subsection using one of the methods described in paragraph (5)~~[(6)]~~ of this subsection in an amount sufficient to allow the agency to engage a third party to decommission the site(s) specified on the license. Upon renewal, the holder of a specific license shall certify that the current financial assurance is adequate to meet the requirements of this subparagraph or submit financial assurance that meets the requirements of this subparagraph. For an applicant, the financial [this certification may state that the appropriate] assurance will be obtained after the application has been approved and

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the applicable quantities in subsection (ii)(2) of this section in sealed sources or plated foils. (For a combination of radionuclides, if R, as defined in paragraph (1) of this subsection, divided by  $10^{10}$  is greater than one.)

(4)[(5)] Each decommissioning funding plan shall contain a cost estimate for decommissioning in an amount sufficient to allow the agency to engage a third party to decommission the site(s) specified on the license and a description of the method of assuring funds for decommissioning from paragraph (5) [(6)] of this subsection, including means of adjusting cost estimates and associated funding levels periodically over the life of the facility. The required amount of financial assurance for decommissioning is determined by the quantity of material authorized by the license. The applicant for or holder of the specific license shall submit with the decommissioning funding plan [The decommissioning funding plan shall also contain a certification by the licensee that financial assurance for decommissioning has been provided in an amount sufficient to allow the agency to engage a third party to decommission the license and] a signed original of the financial instrument obtained to satisfy the requirements of paragraph (5) [(6)] of this subsection. Upon approval of the decommissioning funding plan by the agency, the amount of financial assurance shall be adjusted and posted in conformance with agency approval.

(5)[(6)] Financial assurance for decommissioning shall be provided by one or more of the following methods and shall be reviewed and approved by the agency. The financial instrument obtained shall be continuous for the term of the license.

(A) Prepayment. Prepayment is the deposit prior to issuance of the license [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) A 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 subsection (ii)(3) of this section. 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 subsection (ii)(4) of this section. 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 subsection (ii)(5) of this section. 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 subsection (ii)(6) of this section.

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the license issued, but prior to the receipt of licensed material. If the applicant defers execution of the financial instrument until after the license has been issued, a signed original of the financial instrument obtained to satisfy the requirements of paragraph (5)[(6)] of this subsection shall be submitted to the agency before receipt of licensed material. If the applicant does not defer execution of the financial instrument, [as part of the certification,] a signed original of the financial instrument obtained to satisfy the requirements of paragraph (5)[(6)] of this subsection shall be submitted to the agency.

**[(3) The holder of each specific license issued:]**

**[(A) on or after January 1, 1995, that is of a type described in paragraph (2) of this subsection shall provide financial assurance for decommissioning in accordance with the criteria specified in this section;]**

**[(B) before January 1, 1995, and of a type described in paragraph (1) of this subsection, shall submit on or before January 1, 1995, a decommissioning funding plan or a certification of financial assurance for decommissioning in an amount at least equal to \$750,000, in accordance with the criteria specified in this section. If the licensee submits the certification of financial assurance rather than a decommissioning funding plan at this time, the licensee shall include a decommissioning funding plan in any application for license renewal;]**

**[(C) before January 1, 1995, and of a type described in paragraph (2) of this subsection, shall submit on or before January 1, 1995, a certification of financial assurance for decommissioning or a decommissioning funding plan in accordance with the criteria specified in this section.]**

**(3)[(4)]** The required amount [amounts] of financial assurance for decommissioning is [are] determined by the quantity of material authorized by the license and is determined [and are] as follows:

(A) \$850,000 [**\$750,000**] for quantities of material greater than  $10^4$  but less than or equal to  $10^5$  times the applicable quantities in subsection (ii)(2) of this section in unsealed form. (For a combination of radionuclides, if R, as defined in paragraph (1) of this subsection, divided by  $10^4$  is greater than 1 but R divided by  $10^5$  is less than or equal to one.);

(B) \$170,000 [**\$150,000**] for quantities of material greater than  $10^3$  but less than or equal to  $10^4$  times the applicable quantities in subsection (ii)(2) of this section in unsealed form. (For a combination of radionuclides, if R, as defined in paragraph (1) of this subsection, divided by  $10^3$  is greater than 1 but R divided by  $10^4$  if less than or equal to one.); or

(C) \$85,000 [**\$75,000**] for quantities of material greater than  $10^{10}$  times

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A guarantee by the applicant or licensee may not be used in combination with any other financial methods 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 shall be open-ended or, if written for a specified term, such as five years, shall be renewed automatically unless 90 days or more prior to the renewal date, the issuer notifies the agency, the beneficiary, and the licensee of its intention not to renew. The surety method or insurance shall 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 agency within 30 days after receipt of notification of cancellation.

(ii) The surety method or insurance shall be payable in the state of Texas to the Radiation and Perpetual Care Fund. **[a trust established for decommissioning costs. The trustee and trust shall be acceptable to the agency. 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 shall remain in effect until the agency has terminated the license.

(C) An external sinking fund in which deposits are made at least annually, 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 shall be in accordance with subparagraph (B) of this paragraph.

(D) In the case of federal, state, or local government licensees, a statement of intent containing a cost estimate for decommissioning or an amount in accordance with paragraph (4) of this subsection, and indicating that funds for decommissioning will be obtained when necessary.

(E) When a governmental entity is assuming custody and ownership of a site, there shall be an arrangement that is deemed acceptable by such governmental entity.

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(6) [(7)] Each person licensed in accordance with this section shall keep records of information important to the safe and effective decommissioning of the facility in an identified location until the license is terminated by the agency. If records of relevant information are kept for other purposes, reference to these records and their locations may be used. Information the agency 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 shall 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) except for areas containing only sealed sources (provided the sealed sources have not leaked or no contamination remains after any leak) or byproduct materials having only half-lives of less than 65 days, a list contained in a single document and updated every two years, of the following:

(i) all areas designated and formerly designated as restricted areas as defined in §289.201(b) of this title;

(ii) all areas outside of restricted areas that require documentation under subparagraph (A) of this paragraph; and

(iii) all areas outside of restricted areas where current and previous wastes have been buried as documented in accordance with §289.202(tt) of this title; and

(D) 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.

(7) [(8)] Any licensee who has submitted an application before January 1, 1995, for renewal of license in accordance with this section shall provide financial assurance for decommissioning in accordance with paragraphs (1) and (2) of this subsection. This assurance shall be submitted when this section becomes effective March 1, 1998.

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(hh) (No change.)

(ii) Appendices.

(1) (No change.)

(2) Isotope quantities (for use in subsection (gg) of this section).

Figure: 25 TAC §289.252(ii)(2)

(3)-(4) (No change.)

(5) Criteria relating to use of financial tests and self guarantees for providing reasonable assurance of funds for decommissioning by commercial companies that have no outstanding rated bonds.)

(A) (No change.)

(B) Financial test.

(i) (No change.)

(ii) In addition, to pass the financial test, a company shall meet all of the following requirements:

(I) the company's independent certified public accountant shall have compared the data used by the company in the financial test, that [which] is required to be derived from the independently audited year end financial statement based on United States generally accepted accounting practices for the latest fiscal year, with the amounts in the financial statement. In connection with that procedure, the licensee shall inform the agency within 90 days of any matters that may cause the auditor to believe that the data specified in the financial test should be adjusted and that the company no longer passes the test;

(II)-(III) (No change.)

(C) (No change.)

(6) Criteria relating to use of financial tests and self-guarantees [self-guarantee] for providing reasonable assurance of funds for decommissioning by nonprofit entities, such as colleges, universities, and nonprofit hospitals.

(A) (No change.)

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(B) Financial test.

(i) To pass the financial test, a college or university shall meet the criteria of subclause (I) or (II) of this clause. The college or university shall meet one of the following:

(I) for applicants or licensees that issue bonds, a current rating for its most recent uninsured, uncollateralized, and unencumbered bond issuance of AAA, AA, or A as issued by Standard and Poor's [**Poors**] or Aaa, Aa, or A as issued by Moody's [**Moodys**].

(II) (No change.)

(ii)-(iii) (No change.)

(C) Self-guarantee. The terms of a self-guarantee that an applicant or licensee furnishes shall provide the following:

(i)-(iv) (No change.)

(v) If, at any time, the licensee's most recent bond issuance ceases to be rated in any category of "A" or above by either Standard and Poor's [**Poors**] or Moody's [**Moodys**], the licensee shall provide notice in writing of the fact to the agency within 20 days after publication of the change by the rating service.

(7) (No change.)

(8) Requirements for Demonstrating Financial Qualifications.

(A) If an applicant or licensee is not required to submit financial assurance in accordance with subsection (gg) of this section, that applicant or licensee shall demonstrate financial qualification by submitting attestation that the applicant or licensee is financially qualified to conduct the activity requested for licensure, including any required decontamination, decommissioning, reclamation, and disposal before the agency issues a license.

(B) If an applicant or licensee is required to submit financial assurance in accordance with subsection (gg) of this section, that applicant or licensee shall:

(i) submit one of the following:

(I) the bonding company report or equivalent (from which information can be obtained to calculate a ratio as described in clause (ii) of this subparagraph) that was used to obtain the financial assurance instrument used to meet the financial assurance requirement specified in subsection (gg) of this section. However, if the applicant or licensee posted

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collateral to obtain the financial instrument used to meet the requirement for financial assurance specified in subsection (gg) of this section, the applicant or licensee shall demonstrate financial qualification by one of the methods specified in subclause (II) or (III) of this clause;

(II) SEC documentation (from which information can be obtained to calculate a ratio as described in clause (ii) of this subparagraph, if the applicant or licensee is a publicly-held company; or

(III) a self-test (for example, an annual audit report certifying a company's assets and liabilities and resulting ratio as described in clause (ii) of this subparagraph or, in the case of a new company, a business plan specifying expected expenses versus capitalization and anticipated revenues).

(ii) declare its Standard Industry Classification (SIC) code. Several companies publish lists, on an annual basis, of acceptable assets-to liabilities (assets divided by liabilities) ratio ranges for each type of SIC code. If an applicant or licensee submits documentation of its current assets and current liabilities or, in the case of a new company, a business plan specifying expected expenses versus capitalization and anticipated revenues, and the resulting ratio falls within an acceptable range as published by generally recognized companies (for example, Almanac of Business and Industrial Financial Ratios, Industry NORM and Key Business Ratios, Dun & Bradstreet Industry publications, and Manufacturing USA: Industry Analyses, Statistics, and Leading Companies), the agency will consider that applicant or licensee financially qualified to conduct the requested or licensed activity.

(C) If the applicant or licensee is a state or local government entity, a statement of such will suffice as demonstration that the government entity is financially qualified to conduct the requested or licensed activities.

(D) The agency will consider other types of documentation if that documentation provides an equivalent measure of assurance of the applicant's or licensee's assets and liabilities and the resulting ratio.

LEGEND: (Proposed new rule)  
Regular Print = Proposed new language

§289.254. Licensing of Radioactive Waste Processing and Storage Facilities.

(a) Purpose and scope.

(1) This section establishes the requirements for management of commercial radioactive waste processing and storage facilities, the procedures and criteria for the issuance of licenses to receive, possess, transport, store, and process radioactive waste from other persons, and the terms and conditions upon which the agency will issue such licenses.

(2) Except as otherwise provided, this section applies to all persons who transport, receive, possess, store, or process radioactive waste from other persons. In addition to the requirements of this section, all licensees, unless otherwise specified, are subject to the requirements §289.201 of this title (relating to General Provisions for Radioactive Material), §289.202 of this title (relating to Standards for Protection Against Radiation from Radioactive Material), §289.203 of this title (relating to Notices, Instructions, and Reports to Workers; Inspections), §289.204 of this title (relating to Fees for Certificates of Registration, Radioactive Material Licenses, Emergency Planning and Implementation, and Other Regulatory Services), §289.205 of this title (relating to Hearing and Enforcement Procedures), §289.252 of this title (relating to Licensing of Radioactive Material), and §289.257 of this title (relating to Packaging and Transportation of Radioactive Material).

(b) Definitions. The following words and terms when used in this section shall have the following meanings, unless the context clearly indicates otherwise.

(1) Commencement of major construction - Any major structural erection or major alterations to existing structures, or other substantial action that would change the facility design or site for the purpose of establishing a radioactive waste processing or storage facility. The term does not mean the acquisition of existing structures or minor changes thereto.

(2) Decommissioning - The final activities carried out at a radioactive waste processing or storage site after completion of processing operations to remove safely from service and reduce residual radioactivity to a level that permits release of the property for unrestricted use and/or termination of the license. Such activities shall include:

(A) disposing of all radioactive waste at a licensed radioactive waste disposal site;

(B) dismantling or decontaminating site structures;

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(C) decontaminating site surfaces and remaining equipment; and

(D) conducting final closure surveys, decontamination, and reclamation of the site.

(3) Disposal - Isolation or removal of radioactive wastes from mankind and his environment. The term does not include emissions and discharges under rules of the agency.

(4) Engineered barriers - Man-made devices to contain or limit the potential movement of radioactive material, which might result from spills or other accidents.

(5) Floodplain - The lowland and relatively flat areas adjoining inland and coastal waters, including flood prone areas of off-shore islands.

(6) Local government - A county, an incorporated city or town, a special district, or other political subdivision of the state.

(7) Major aquifer - An aquifer that yields large quantities of water in a comparatively large area of the state. Major aquifers are located in the following formations: Ogallala, Alluvium and Bolson Deposits, Edwards-Trinity (Plateau), Edwards (Balcones Fault Zone - San Antonio Region), Edwards (Balcones Fault Zone - Austin Region), Trinity Group, Carrizo-Wilcox, and Gulf Coast.

(8) Natural barriers - The natural characteristics of a site or surface and subsurface composition that serves to impede the movement of radioactive material. Natural barriers may include, for example, the location of a facility remote from an aquifer, or the sorptive capability of the soil surrounding a facility.

(9) Person affected - A person:

(A) who is a resident of a county, or a county adjacent to the county, in which radioactive materials subject to the Texas Radiation Control Act (Act) are/or will be located, including any person who is doing business or who has a legal interest in land in the county or adjacent county, and any local government in the county; and

(B) who shall demonstrate that he has suffered or will suffer actual injury or economic damage.

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(10) Processing - The storage, extraction of materials, transfer, volume reduction, compaction, incineration, solidification, or other separation and preparation of radioactive waste from other persons for reuse or disposal, including any treatment or activity that renders the waste less hazardous, safer for transport, or amenable to recovery, storage, or disposal.

(11) Radioactive waste processing facility - A facility where radioactive waste received from other persons is processed and repackaged according to United States Department of Transportation (DOT) regulations.

(12) Radioactive waste storage facility - A facility where radioactive waste received from other persons and packaged according to DOT regulations is stored while awaiting shipment to a licensed radioactive waste processing or disposal facility.

(13) Reconnaissance level information - Any information or analysis that can be retrieved or generated without the performance of new comprehensive site-specific investigations. Reconnaissance level information includes, but is not limited to, relevant published scientific literature; drilling records required by state agencies, such as the Railroad Commission of Texas, the Texas Environmental Quality Commission (Commission), and the Texas Natural Resources Information System; and reports of governmental agencies.

(14) Site - The real property, including the buffer zone, on which a radioactive waste processing or storage facility may be located.

(15) Site monitoring - The procedures for the monitoring of the site and environment to assess quality of site operations and performance and to detect and quantify levels and types of radioactivity and chemicals in the environment. It includes preoperational, operational, and license termination phases.

(16) Site operations - The routine day-to-day activities carried out at the site for the receipt, processing, and storage of radioactive waste.

(17) Site suitability - The capability of the various characteristics of a processing or storage facility or site to safely contain the radioactive waste expected to be present at the site.

(18) Sole source aquifer - The aquifer that is the sole or principal source of drinking water for an area designated under the Safe Drinking Water Act of 1974, 42 United States Codes Annotated 300f, et seq.

(19) Waste processing and storage categories - Radionuclides classified as follows:

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(A) any one of seven groups into which radionuclides in normal form are classified, according to their toxicity and their relative potential hazard in transport, as specified in subsection (v) of this section; and

(B) any radionuclide not specifically listed in one of the categories in subsection (v) of this section shall be assigned to one of the categories in accordance with subsection (v)(2) of this section.

(20) Wetlands - Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and that, under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include playa lakes, swamps, marshes, bogs, and similar areas.

(c) Activities requiring license. Except for persons exempted by this section, no person shall receive, possess, and store or process radioactive waste from another person except as authorized in a specific license issued in accordance with this section.

(d) Radioactive waste processing and storage facility classification.

(1) Classification of radioactive waste processing and storage facilities. Radioactive waste processing and storage facilities are classified according to the radionuclides, other than sealed sources, received, possessed, or processed in each of the waste processing and storage categories, as defined in subsection (b) of this section with all applicable provisions, except that, for the purposes of this section which apply to processing and storage of radioactive waste, Category IV shall include waste processing and storage categories IV-VII. The total possession limit of each category of unsealed (dispersible) radionuclides for each class of facility is as follows:

Figure: 25 TAC §289.254(d)(1)

(2) Class III storage facilities are those in which the applicable possession limit of radioactive waste exceeds any limit of Class II storage facilities.

(3) Class III processing facilities are those in which the applicable possession limit of radioactive waste exceeds any limit of Class II processing facilities.

(e) Exemptions.

(1) Sealed sources.

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(A) Persons who receive, possess, or process sealed sources of radioactive material as radioactive waste from other persons are exempt from this section, provided that:

(i) encapsulated sources are tested upon receipt and determined to have less than 0.005 microcurie of removable contamination; and

(ii) sealed sources of radioactive material remain in sealed form after receipt.

(B) Persons who receive, possess, or process sealed sources of radioactive material from other persons for recycle or beneficial reuse are exempt from this section, provided that:

(i) encapsulated sources are tested upon receipt and determined to have less than 0.005 microcurie of removable contamination; and

(ii) sealed sources of radioactive material remain in sealed form after receipt.

(C) Persons exempt from the requirements of this section in accordance with subparagraph (A) of this paragraph, shall meet the requirements for financial assurance and record keeping for decommissioning in accordance with §289.252(gg) of this title. Persons who store sealed sources of radioactive material, in accordance with subparagraph (B) of this paragraph, for longer than two years, are considered to be receiving, possessing, or processing sealed sources of radioactive material as radioactive waste from other persons and shall meet the requirements for financial assurance and record keeping for decommissioning in accordance with §289.252(gg) of this title.

(2) Unsealed sources.

(A) Persons who receive, possess, or process sources of radioactive material in unsealed form as radioactive waste from other persons are exempt from this section provided that:

(i) the total radioactivity of all radioactive waste possessed at any one time does not exceed the applicable limits for Class I processing or storage facilities as described in subsection (d) of this section; and

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(ii) the total volume of radioactive waste processed in any one year does not exceed 50 cubic feet.

(B) Persons who receive, possess, and store radioactive material in unsealed form as radioactive waste from other persons are exempt from this section provided that:

(i) the radioactive waste consists only of radiopharmaceutical residues resulting from radiopharmaceuticals manufactured, compounded, and supplied by those persons receiving the radiopharmaceutical residues as radioactive waste;

(ii) the radioactive waste is held in storage for decay to background radiation levels; and

(iii) the radioactive waste is not shipped to a radioactive waste processing or disposal facility.

(3) Radioactive material. A person who receives, possesses, and stores radioactive material as radioactive waste from sites owned and controlled by that same person is not considered to have received waste from other persons.

(f) Filing application for a specific license.

(1) The applicant for a license to receive, possess, or process radioactive waste from other persons shall submit, on BRC Form 252-2, "Application for Radioactive Material License," seven copies of each license application or application for amendment and any supporting documents. Applications for issuance of licenses shall include all general and specific technical requirements, financial information, and environmental requirements, if applicable, described in this section.

(2) The agency may at any time after the submission of the original application, require further statements or data to enable the agency to determine whether the application should be denied or the license should be issued.

(3) Each application shall be signed by the chief executive officer or other individual delegated the authority to manage, direct, or administer the licensee's activities.

(4) An application for a license may include a request for one or more of the activities specified in paragraph (1) of this subsection. The agency may require the issuance of separate licenses for those activities.

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(5) Each application for a license shall be accompanied by the fee prescribed in §289.204 of this title.

(6) If facility drawings submitted in conjunction with the application for a license are prepared by a professional engineer or engineering firm, those drawings shall be final and shall be signed, sealed and dated in accordance with the requirements of the Texas Board of Professional Engineers, 22 Texas Administrative Code, Chapter 131.

(7) Each application shall clearly demonstrate how the requirements of this subsection and subsections (g), (h), (i), and (j) of this section have been addressed.

(8) Each application shall be accompanied by a completed BRC Form 252-1, (Business Information Form).

(9) Applications for licenses shall be processed in accordance with the following time periods.

(A) The first period is the time from receipt of an application by the Division of Licensing, Registration and Standards to the date of issuance or denial of the license or a written notice outlining why the application is incomplete or unacceptable. This time period is 90 days.

(B) The second period is the time from receipt of the last item necessary to complete the application to the date of issuance or denial of the license. This time period is 90 days.

(C) These time periods are exclusive of any time period incident to hearings and post-hearing activities required by Government Code, Chapters 2001 and 2002.

(10) Notwithstanding the provisions of §289.204(e)(1) of this title, reimbursement of application fees may be granted in the following manner.

(A) In the event the application is not processed in the time periods as stated in paragraph (9) of this subsection, the applicant has the right to request of the director of the Radiation Control Program full reimbursement of all application fees paid in that particular application process. If the director does not agree that the established periods have been violated or finds that good cause existed for exceeding the established periods, the request will be denied.

(B) Good cause for exceeding the period established is considered to exist if:

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(i) the number of applications for licenses to be processed exceeds by 15% or more the number processed in the same calendar quarter the preceding year;

(ii) another public or private entity utilized in the application process caused the delay; or

(iii) other conditions existed giving good cause for exceeding the established periods.

(C) If the request for full reimbursement authorized by subparagraph (A) of this paragraph is denied, the applicant may then request a hearing by appeal to the Commissioner of Health for a resolution of the dispute. The appeal will be processed in accordance with the Formal Hearing Procedures, §§1.21, 1.23, 1.25, and 1.27 of this title (relating to the Texas Board of Health).

(11) Applications for licenses may be denied for the following reasons:

(A) any material false statement in the application or any statement of fact required under provisions of the Act;

(B) conditions revealed by the application or statement of fact or any report, record, or inspection, or other means that would warrant the agency to refuse to grant a license on an application; or

(C) failure to clearly demonstrate how the requirements of this section have been addressed.

(g) Additional requirements. An applicant for a license under this section shall include the following information in the application to the agency:

(1) identity of the applicant including the full name, address, telephone number, and description of the business(es) or occupation(s) of the applicant;

(2) the organizational structure of the applicant, both off-site and on-site, including a description of lines of authority and assignments of responsibilities, whether in the form of administrative directives, contract provisions, or otherwise;

(3) a description of past operations that the applicant has been involved in including any license limitations, suspensions or revocations of such licenses, and any other information that will allow the agency to assess the applicant's past operating history;

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(4) the technical qualifications, including training and experience, of the applicant and members of the applicant's staff to engage in the proposed activities; and minimum training and experience requirements for personnel;

(5) a description of the personnel training and retraining program;

(6) a statement of need and a description of the proposed activities identifying:

(A) the location of the proposed site;

(B) the character of the proposed activities;

(C) the types, chemical and/or physical forms and quantities of radioactive waste to be received, possessed, and processed; and

(D) the plans for use of the facility for purposes other than processing of radioactive waste;

(7) proposed time schedules for construction and receipt and processing of radioactive waste at the proposed facility;

(8) description of the site and accurate drawings of the facility including, but not limited to:

(A) construction;

(B) foundation details;

(C) ventilation;

(D) plumbing and fire suppression systems;

(E) physical security system;

(F) storage areas;

(G) radioactive waste handling or processing areas;

(H) proximity to creeks or culverts; and

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(I) soil types under the facility with respect to compatibility with foundation and structural design;

(9) a description that demonstrates that the site suitability characteristics will meet the following requirements:

(A) the overall hydrogeologic environment of the site, in combination with engineering design, shall act to minimize and control potential radioactive waste migration into surface water and groundwaters;

(B) no new site shall be located in a 100-year floodplain, as designated by the Commission, or a wetland; and

(C) no new site shall be located in the recharge area of a sole source aquifer or a major aquifer unless it can be demonstrated with reasonable assurance that the new site will be designed, constructed, operated, and closed without an unreasonable risk to the aquifer.

(10) minimum criteria for facility design and operation to include:

(A) the building used for processing radioactive wastes shall have a minimum classification of Type II (111) in accordance with National Fire Protection Association 220 titled, "Standards Types of Building Construction";

(i) buildings used for processing or storage of radioactive wastes shall have ventilation and fire protection systems to minimize the release of radioactive materials into the soils, waters, and the atmosphere; and

(ii) facilities and equipment for repackaging leaking and/or damaged containers shall be provided.

(B) the design and operation of the radioactive waste processing or storage facility shall be such that:

(i) releases of non-radiological noxious materials from the facility are minimized; and

(ii) radiation levels, concentrations, and potential exposures off-site due to airborne releases during operations are within the limits established in §289.202 of this title and are maintained as low as reasonably achievable.

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(C) the design and operation of the radioactive waste processing or storage facility shall be compatible with the objectives of the site closure and decommissioning funding plan;

(D) the facility shall be designed to confine spills. Independent and diverse engineered barriers shall be provided, as necessary, to complement natural barriers in minimizing potential releases from the facility and in complying with this section;

(E) the location and construction of any new radioactive waste processing facility shall have a buffer zone adequate to permit emergency measures to be implemented following accidents and to address airborne plume dispersions and, as a minimum, shall be such that:

(i) the active components of a Class II facility are located at least 30 meters from the nearest residence as of the date of the license application; and

(ii) the active components of a Class III facility are located at least 30 meters from the nearest property not owned or occupied by the licensee.

(11) a flow diagram of radioactive waste processing operations;

(12) a description and accurate drawings of processing equipment and any required special handling techniques to be employed;

(13) a description of personnel monitoring methods, training, and procedures to be followed to keep employees from ingesting and inhaling radioactive materials, including a description of methods to keep the radiation exposure to levels as low as reasonably achievable;

(14) a description of the site monitoring program to include prelicense data and proposed operational monitoring programs for direct gamma radiation measurements and radioactive and chemical characteristics of the soils, groundwater, surface waters, and vegetation, as applicable;

(A) for radioactive waste storage facilities, the applicant shall address on-site air quality; and

(B) for radioactive waste processing facilities, the applicant shall address on-site and off-site air quality;

(15) spill detection and cleanup plans for the licensed site and for associated transportation of radioactive material;

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(16) an operating, safety, and emergency procedures manual that shall provide detailed procedures for receiving, handling, storing, processing, and shipping radioactive waste;

(17) for radioactive waste processing facilities, a description of the equipment to be installed to maintain control over maximum concentrations of radioactive materials in gaseous and liquid effluents produced during normal operations and the means to be employed for keeping levels of radioactive material in effluents to unrestricted areas as low as reasonably achievable and within the limits listed in §289.202 of this title;

(18) methods of ultimate disposal and decommissioning;

(19) the system for maintaining inventory of receipt, storage, and transfer of radioactive waste; and

(20) demonstration to the agency that the applicant is financially qualified to conduct the licensed activity requested for licensure, including any required decontamination, decommissioning, reclamation, and disposal, before the department issues a license. Each licensee shall demonstrate to the agency that it remains financially qualified to conduct the licensed activity before a license is renewed. Methods for demonstrating financial qualifications are specified in §289.252(ii)(8) of this title. The requirement for demonstration of financial qualification is separate from the requirement specified in subsection (n) of this section for certain applicants or licensees to provide financial assurance in conjunction with a decommissioning funding plan.

(h) Additional environmental requirements for Class III facilities. An application for a license for a class III processing or storage facility shall include environmental information that may be based on reconnaissance level information when appropriate and addresses the following:

(1) description of present land uses and population distribution in the vicinity of the site:

(A) for radioactive waste storage facilities, the description shall address properties adjacent to the site; and

(B) for radioactive waste processing facilities, the description shall address properties adjacent to the site and shall include population distribution within a one-mile radius of the site;

(2) area/site suitability including geology, hydrology, and natural hazards. For radioactive waste processing facilities, area meteorology also shall be addressed;

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- (3) site and project alternatives including alternative siting analysis;
  - (4) socioeconomic effects on surrounding communities of operation of the licensed activity and of associated transportation of radioactive material; and
  - (5) environmental effects of postulated accidents.
- (i) Issuance of license.
- (1) A license for a radioactive waste processing or storage facility will be issued if the agency finds reasonable assurance that:
    - (A) the proposed radioactive waste facility will be sited, designed, operated, decommissioned, and closed in accordance with this section;
    - (B) the issuance of the license will not be inimical to the health and safety of the public or the environment; and
    - (C) there is no reason to deny the license as specified in subsection (f)(11) of this section.
  - (2) The agency may also request additional information after the license has been issued to enable the agency to determine whether the license should be modified.
- (j) Commencement of major construction. Commencement of major construction is prohibited until 30 days after the agency has given notice that a license is to be granted or renewed, and the environmental analysis is available. If a hearing is requested, the commencement of major construction is prohibited until notice of the contested case hearing is noticed in accordance with the Act. Commencement of major construction subsequent to issuance of the notices is at the economic risk of the applicant.
- (k) Commencement of operations. No licensee issued a license under this section may commence operations until the licensee has obtained licenses or permits from other agencies as required by law.
- (l) Specific terms and conditions to license.
- (1) Each license issued in accordance with this section shall be subject to all the provisions of the Act and applicable rules in this chapter, now or hereafter in effect, and orders of the agency.

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(2) No license issued or granted under this section and no right to possess or utilize radioactive material granted by any license issued in accordance with this section shall 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 agency shall, after securing full information, find that the transfer is in accordance with the provisions of the Act and to applicable rules in this chapter, now and hereafter in effect, and orders of the agency, and shall give its consent in writing.

(3) Each person licensed by the agency in accordance with this section shall confine his use and possession of the radioactive material to the locations and purposes authorized in the license.

(4) A license issued under this section shall include license conditions derived from the evaluations of the application and analyses performed by the agency, including amendments and changes made before a license is issued. License conditions may include, but are not limited to, items in the following categories:

(A) restrictions as to the total radioactive inventory of radioactive waste to be received;

(B) restrictions as to size, shape, and materials and methods of construction of radioactive waste packaging and maximum number of package units stored, at any one time;

(C) restrictions as to the physical and chemical form and radioisotopic content and concentration of radioactive waste;

(D) controls to be applied to restrict access to the site;

(E) controls to be applied to maintain and protect the health and safety of the public and site employees and the environment;

(F) administrative controls, which are the provisions relating to organization, management, and operating procedures; record-keeping, review and audit; and reporting necessary to assure that activities at the facility are conducted in a safe manner and in conformity with agency rules and license conditions; and

(G) maximum retention time for radioactive waste received at the facility.

(5) Each licensee shall notify the agency, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy.

(6) The notification in paragraph (5) of this subsection shall include:

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and (A) the bankruptcy court in which the petition for bankruptcy was filed;

(B) the date of the filing of the petition.

(7) A copy of the petition for bankruptcy shall be submitted to the agency along with the written notification.

(m) Expiration and termination of licenses and decommissioning of sites and separate buildings or outdoor areas.

(1) Except as provided in subsection (p)(2) of this section, each specific license expires at the end of the day, in the month and year stated in the license.

(2) All license provisions continue in effect beyond the expiration date, with respect to possession of radioactive material until the agency notifies the former licensee in writing that the provisions of the license are no longer binding. During this time, the former licensee shall:

(A) be limited to actions involving radioactive material that are related to decommissioning; and

(B) continue to control entry to restricted areas until the location(s) is suitable for release for unrestricted use in accordance with the requirements in §289.202(ddd) of this title.

(3) Within 60 days of the occurrence of any of the following, each licensee shall provide notification to the agency in writing and either begin decommissioning its site, or any separate building or outdoor area that contains residual radioactivity, so that the building and/or outdoor area is suitable for release in accordance with §289.202(eee) of this title, or submit within 12 months of notification a decommissioning plan, if required by paragraph (6) of this subsection, and begin decommissioning upon approval of that plan:

(A) the license has expired in accordance with this subsection or subsection (s)(3) of this section;

(B) the licensee has decided to permanently cease principal activities, as defined in §289.201(b) of this title, at the entire site or in any separate building or outdoor area;

(C) no principal activities under the license have been conducted for a

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period of 24 months; or

(D) no principal activities have been conducted for a period of 24 months in any separate building or outdoor area that contains residual radioactivity such that the building or outdoor area is unsuitable for release in accordance with §289.202(eee) of this title.

(4) Coincident with the notification required by paragraph (3) of this subsection, the licensee shall maintain in effect all decommissioning financial assurances established by the licensee in accordance with subsection (n) of this section in conjunction with a license issuance or renewal or as required by this section. The amount of the financial assurance shall be increased, or may be decreased, as appropriate, with agency approval, to cover the detailed cost estimate for decommissioning established in accordance with paragraph (9)(E) of this subsection.

(A) Any licensee who has not provided financial assurance to cover the detailed cost estimate submitted with the decommissioning plan shall do so by March 1, 1998.

(B) Following approval of the decommissioning plan, a licensee may reduce the amount of the financial assurance as decommissioning proceeds and radiological contamination is reduced at the site with the approval of the agency.

(5) The agency may grant a request to delay or postpone initiation of the decommissioning process if the agency determines that such relief is not detrimental to the occupational and public health and safety and is otherwise in the public interest. The request shall be submitted no later than 30 days before notification in accordance with paragraph (3) of this subsection. The schedule for decommissioning set forth in paragraph (3) of this subsection may not commence until the agency has made a determination on the request.

(6) A decommissioning plan shall be submitted if required by license condition or if the procedures and activities necessary to carry out decommissioning of the site or separate building or outdoor area have not been previously approved by the agency and these procedures could increase potential health and safety impacts to workers or to the public, such as in any of the following cases:

(A) procedures would involve techniques not applied routinely during cleanup or maintenance operations;

(B) workers would be entering areas not normally occupied where surface contamination and radiation levels are significantly higher than routinely encountered during operation;

(C) procedures could result in significantly greater airborne concentrations of radioactive materials than are present during operation; or

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(D) procedures could result in significantly greater releases of radioactive material to the environment than those associated with operation.

(7) The agency may approve an alternate schedule for submittal of a decommissioning plan required in accordance with paragraph (3) of this subsection if the agency determines that the alternative schedule is necessary to the effective conduct of decommissioning operations and presents no undue risk from radiation to the occupational and public health and safety and is otherwise in the public interest.

(8) The procedures listed in paragraph (6) of this subsection may not be carried out prior to approval of the decommissioning plan.

(9) The proposed decommissioning plan for the site or separate building or outdoor area shall include the following:

(A) a description of the conditions of the site or separate building or outdoor area sufficient to evaluate the acceptability of the plan;

(B) a description of planned decommissioning activities;

(C) a description of methods used to ensure protection of workers and the environment against radiation hazards during decommissioning;

(D) a description of the planned final radiation survey;

(E) an updated detailed cost estimate for decommissioning, comparison of that estimate with present funds set aside for decommissioning, and a plan for assuring the availability of adequate funds for completion of decommissioning; and

(F) for decommissioning plans calling for completion of decommissioning later than 24 months after plan approval, a justification for the delay based on the criteria in paragraph (13) of this subsection.

(10) The proposed decommissioning plan will be approved by the agency if the information in the plan demonstrates that the decommissioning will be completed as soon as practicable and that the health and safety of workers and the public will be adequately protected.

(11) Except as provided in paragraph (13) of this subsection, licensees shall complete decommissioning of the site or separate building or outdoor areas as soon as practicable but no later than 24 months following the initiation of decommissioning.

(12) Except as provided in paragraph (13) of this subsection, when decommissioning involves the entire site, the licensee shall request license termination as soon as

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practicable but no later than 24 months following the initiation of decommissioning.

(13) The agency may approve a request for an alternate schedule for completion of decommissioning of the site or separate building or outdoor area, and license termination if appropriate, if the agency determines that the alternative is warranted by consideration of the following:

(A) whether it is technically feasible to complete decommissioning within the allotted 24 month period;

(B) whether sufficient waste disposal capacity is available to allow completion of decommissioning within the allotted 24 month period;

(C) whether a significant volume reduction in wastes requiring disposal will be achieved by allowing short-lived radionuclides to decay;

(D) whether a significant reduction in radiation exposure to workers can be achieved by allowing short-lived radionuclides to decay; and

(E) other site-specific factors that the agency may consider appropriate on a case-by-case basis, such as the regulatory requirements of other government agencies, lawsuits, groundwater treatment activities, monitored natural ground-water restoration, actions that could result in more environmental harm than deferred cleanup, and other factors beyond the control of the licensee.

(14) As the final step in decommissioning, the licensee shall do the following:

(A) certify the disposition of all licensed material, including accumulated wastes; and

(B) conduct a radiation survey of the premises where the licensed activities were carried out and submit a report of the results of this survey unless the licensee demonstrates that the premises are suitable for release in accordance with the radiological requirements for license termination specified in §289.202(ddd) of this title. The licensee shall do the following, as appropriate:

(i) report the following levels:

(I) gamma radiation in units of microroentgen per hour ( $\mu\text{R/hr}$ ) (millisieverts per hour (mSv/hr)) at 1 meter (m) from surfaces;

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(II) radioactivity, including alpha and beta, in units of disintegrations per minute (dpm) or microcuries ( $\mu\text{Ci}$ ) (megabecquerels (MBq)) per 100 square centimeters ( $\text{cm}^2$ ) for surfaces;

(III)  $\mu\text{Ci}$  (MBq) per milliliter for water; and

(IV) picocuries (pCi) (becquerels (Bq)) per gram (g) for solids such as soils or concrete; and

(ii) specify the manufacturer's name and model and serial number of survey instrument(s) used and certify that each instrument is properly calibrated and tested.

(15) The agency will provide written notification to specific licenses, including former licenses with provisions continued in effect beyond the expiration date in accordance with paragraph (2) of this subsection, that the provisions of the license are no longer binding. The agency will provide such notification when the agency determines that:

(A) radioactive material has been properly disposed;

(B) reasonable effort has been made to eliminate residual radioactive contamination, if present;

(C) a radiation survey has been performed that demonstrates that the premises are suitable for release in accordance with the radiological requirements for license termination specified in §289.202(ddd) of this title or other information submitted by the licensee is sufficient to demonstrate that the premises are suitable for release in accordance with the radiological requirements for license termination specified in §289.202(ddd) of this title; and

(D) any outstanding fees in accordance with §289.204 of this title are paid and any outstanding notices of violations of this chapter or of license conditions are resolved.

(16) Each licensee shall submit to the agency all records required by §289.202(nn)(2) of this title before the license is terminated.

(n) Financial assurance and record keeping for decommissioning.

(1) The applicant for or holder of each specific license authorizing the receipt, possession, transport, storage, and processing of radioactive waste from other persons with a half-life greater than 120 days and in quantities exceeding  $10^5$  times the applicable quantities set forth in §289.252(ii)(2) of this title shall submit a decommissioning funding plan as described in paragraph (4) of this subsection in an amount sufficient to allow the agency to engage a third party to decommission the site(s) specified on the license. The decommissioning funding plan shall also be submitted when a combination of isotopes is involved if R divided by  $10^5$  is greater than 1 (unity

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rule), where R is defined as the sum of the ratios of the quantity of each isotope to the applicable value in §289.252(ii)(2) of this title.

(2) The applicant for or holder of each specific license authorizing receipt, possession, transport, storage, and processing of radioactive waste from other persons with a half-life greater than 120 days and in quantities specified in paragraph (3) of this subsection shall:

(A) submit a decommissioning funding plan as described in paragraph (4) of this subsection in an amount sufficient to allow the agency to engage a third party to decommission the site(s) specified on the license; or

(B) submit financial assurance for decommissioning in the amount in accordance with paragraph (3) of this subsection using one of the methods described in paragraph (5) of this subsection in an amount sufficient to allow the agency to engage a third party to decommission the site(s) specified on the license. Upon renewal, the holder of a specific license shall certify that the current financial assurance is adequate to meet the requirements of this subparagraph or submit financial assurance that meets the requirements of this subparagraph. For an applicant, the financial assurance will be obtained after the application has been approved and the license issued, but prior to the receipt of radioactive waste. If the applicant defers execution of the financial instrument until after the license has been issued, a signed original of the financial instrument obtained to satisfy the requirements of paragraph (5) of this subsection shall be submitted to the agency before receipt of radioactive waste. If the applicant does not defer execution of the financial instrument, a signed original of the financial instrument obtained to satisfy the requirements of paragraph (5) of this subsection is to be submitted to the agency.

(3) Required amounts of financial assurance. The required amount of financial assurance for decommissioning is determined by quantity of material authorized on the license and is determined as follows:

(A) \$850,000 for quantities of material greater than  $10^4$  but less than or equal to  $10^5$  times the applicable quantities in §289.252(ii)(2) of this title in unsealed form. (For a combination of radionuclides, if R, as defined in paragraph (1) of this subsection, divided by  $10^4$  is greater than 1 but R divided by  $10^5$  is less than or equal to 1.);

(B) \$170,000 for quantities of material greater than  $10^3$  but less than or equal to  $10^4$  times the applicable quantities in §289.252(ii)(2) of this title in unsealed form. (For a combination of radionuclides, if R, as defined in paragraph (1) of this subsection, divided by  $10^3$  is greater than 1 but R divided by  $10^4$  if less than or equal to 1.); or

(C) \$85,000 for quantities of material greater than  $10^{10}$  times the applicable quantities in §289.252(ii)(2) of this title in sealed sources or plated foils. (For a

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combination of radionuclides, if R, as defined in paragraph (1) of this subsection, divided by  $10^{10}$  is greater than one.)

(4) Each decommissioning funding plan shall contain a cost estimate for decommissioning in an amount sufficient to allow the agency to engage a third party to decommission the site(s) specified on the license and a description of the method of assuring funds for decommissioning from paragraph (5) of this subsection, including means of adjusting cost estimates and associated funding levels periodically over the life of the facility. The required amount of financial assurance for decommissioning is determined by the quantity of material authorized by the license. The applicant for or holder of the specific license shall submit with the decommissioning funding plan a signed original of the financial instrument obtained to satisfy the requirements of paragraph (5) of this subsection. Upon approval of the decommissioning funding plan by the agency, the amount of financial assurance shall be adjusted and posted in conformance with agency approval.

(5) Financial assurance for decommissioning shall be provided by one or more of the following methods and shall be reviewed and approved by the agency. The financial instrument obtained shall be continuous for the term of the license.

(A) Prepayment. Prepayment is the deposit prior to issuance of the license 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) A 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 §289.252(ii)(3) of this title. 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 §289.252(ii)(4) of this title. 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 §289.252(ii)(5) of this title. 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 §289.252(ii)(6) of this title. A guarantee by the applicant or licensee may not be used in combination with any other financial methods to satisfy the requirements of this section or in any situation where the applicant or licensee has a

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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 shall be open-ended or, if written for a specified term, such as five years, shall be renewed automatically unless 90 days or more prior to the renewal date, the issuer notifies the agency, the beneficiary, and the licensee of its intention not to renew. The surety method or insurance shall 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 agency within 30 days after receipt of notification of cancellation.

(ii) The surety method or insurance shall be payable in the state of Texas to the Radiation and Perpetual Care Fund.

(iii) The surety method or insurance shall remain in effect until the agency has terminated the license.

(C) External sinking fund. An external sinking fund in which deposits are made at least annually, 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 shall be in accordance with subparagraph (B) of this paragraph.

(D) Statement of intent. In the case of federal, state, or local government licensees, a statement of intent containing a cost estimate for decommissioning or an amount in accordance with paragraph (4) of this subsection, and indicating that funds for decommissioning will be obtained when necessary.

(E) When a governmental entity is assuming custody and ownership of a site, there shall be an arrangement that is deemed acceptable by such governmental entity.

(6) Each person licensed under this section shall keep records of information important to the safe and effective decommissioning of the facility in an identified location until the license is terminated by the agency. If records of relevant information are kept for other purposes, reference to these records and their locations may be used. Information the agency considers important to decommissioning consists of the following:

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(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 shall 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 waste is processed 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) except for areas containing only sealed sources (provided the sources have not leaked or no contamination remains after any leak) or byproduct materials having only half-lives of less than 65 days, a list contained in a single document and updated every two years, of the following:

(i) all areas designated and formerly designated as restricted areas as defined in §289.201(b) of this title;

(ii) all areas outside of restricted areas that require documentation under subparagraph (A) of this paragraph; and

(iii) all areas outside of restricted areas where current and previous wastes have been buried as documented under §289.202(tt) of this title; and

(D) 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.

(7) Any licensee who has submitted an application before January 1, 1995, for renewal of license in accordance with this section shall provide financial assurance for decommissioning in accordance with paragraphs (1) and (2) of this subsection. This assurance shall be submitted when this section becomes effective March 1, 1998.

(o) Emergency plan for responding to a release.

(1) A new or renewal application for each specific license authorizing the receipt, possession, transport, storage, and processing of radioactive waste from other persons in excess of the quantities in §289.252(ii)(7) of this title shall contain either:

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(A) an evaluation showing that the maximum dose to a person offsite due to a release of radioactive materials would not exceed 1 rem effective dose equivalent or 5 rems to the thyroid; or

(B) an emergency plan for responding to a release of radioactive waste.

(2) One or more of the following factors may be used to support an evaluation submitted in accordance with paragraph (1)(A) of this subsection:

(A) the radioactive waste is physically separated so that only a portion could be involved in an accident;

(B) all or part of the radioactive waste is not subject to release during an accident because of the way it is stored or packaged;

(C) the release fraction in the respirable size range would be lower than the release fraction shown in §289.252(ii)(7) of this title due to the chemical or physical form of the waste;

(D) the solubility of the radioactive waste would reduce the dose received;

(E) facility design or engineered safety features in the facility would cause the release fraction to be lower than shown in §289.252(ii)(7) of this title;

(F) operating restrictions or procedures would prevent a release fraction as large as that shown in §289.252(ii)(7) of this title; or

(G) other factors appropriate for the specific facility.

(3) An emergency plan for responding to a release of radioactive waste submitted in accordance with paragraph (1)(B) of this subsection shall include the following information:

(A) a brief description of the licensee's facility and area near the site;

(B) an identification of each type of radioactive waste accident for which protective actions may be needed;

(C) a classification system for classifying accidents as alerts or site area emergencies;

(D) identification of the means of detecting each type of accident in a

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timely manner;

(E) a brief description of the means and equipment for mitigating the consequences of each type of accident, including those provided to protect workers onsite, and a description of the program for maintaining the equipment;

(F) a brief description of the methods and equipment to assess releases of radioactive waste;

(G) a brief description of the responsibilities of licensee personnel should an accident occur, including identification of personnel responsible for promptly notifying offsite response organizations and the agency; also, responsibilities for developing, maintaining, and updating the plan;

(H) a commitment to and a brief description of the means to promptly notify offsite response organizations and request offsite assistance, including medical assistance for the treatment of contaminated injured onsite workers when appropriate. A control point shall be established. The notification and coordination must be planned so that unavailability of some personnel, parts of the facility, and some equipment will not prevent the notification and coordination. The licensee shall also commit to notify the agency immediately after notification of the appropriate offsite response organizations and not later than one hour after the licensee declares an emergency. These reporting requirements do not supersede or release licensees of complying with the requirements under the Emergency Planning and Community Right-to-Know Act of 1986, Title III, Publication L. 99-499 or other state or federal reporting requirements;

(I) a brief description of the types of information on facility status, radioactive releases, and recommended protective actions, if necessary, to be given to offsite response organizations and to the agency;

(J) a brief description of the frequency, performance objectives, and plans for the training that the licensee will provide workers on how to respond to an emergency, including any special instructions and orientation tours the licensee would offer to fire, police, medical, and other emergency personnel. The training shall familiarize personnel with site-specific emergency procedures. Also, the training shall thoroughly prepare site personnel for their responsibilities in the event of accident scenarios postulated as most probable for the specific site, including the use of team training for such scenarios;

(K) a brief description of the means of restoring the facility to a safe condition after an accident;

(L) provisions for conducting quarterly communications checks with offsite response organizations and biennial onsite exercises to test response to simulated emergencies. Quarterly communications checks with offsite response organizations shall include

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the check and update of all necessary telephone numbers. The licensee shall invite offsite response organizations to participate in the biennial exercises. Participation of offsite response organizations in biennial exercises, although recommended, is not required. Exercises shall use accident scenarios postulated as most probable for the specific site and the scenarios shall not be known to most exercise participants. The licensee shall critique each exercise using individuals not having direct implementation responsibility for the plan. Critiques of exercises shall evaluate the appropriateness of the plan, emergency procedures, facilities, equipment, training of personnel, and overall effectiveness of the response. Deficiencies found by the critiques shall be corrected; and

(M) a certification that the applicant has met its responsibilities under the Emergency Planning and Community Right-to-Know Act of 1986, Title III, Publication L. 99-499, if applicable to the applicant's activities at the proposed place of processing and/or storage of radioactive waste.

(4) The licensee shall allow the offsite response organizations expected to respond in case of an accident 60 days to comment on the licensee's emergency plan before submitting it to the agency. The licensee shall provide any comments received within the 60 days to the agency with the emergency plan.

(p) Renewal of license.

(1) Application for renewal of specific licenses shall be filed in accordance with subsection (f) of this section. In any application for renewal, the applicant may incorporate drawings by reference.

(2) In any case in which a licensee, not less than 30 days prior to expiration of the existing license, has filed an application in proper form for renewal or for a new license authorizing the same activities, such existing license shall not expire until the agency has made a final determination on the application.

(3) The licensee is responsible for decommissioning the facility and continued safe storage of any radioactive waste whether an application for continued receipt of wastes is filed or not.

(q) Amendment of license at request of licensee. Applications for amendment of a license shall be filed in accordance with subsection (f) of this section, except that the requirements of subsection (f)(5) of this section may be waived at the discretion of the agency. Such applications shall also specify how the licensee desires his license to be amended and the basis for such amendment.

(r) Agency action on application to renew or amend. In considering a request by a licensee to renew or amend a license, the agency will apply the criteria in subsection (i) of this

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section.

(s) Modification and revocation of licenses.

(1) The terms and conditions of all licenses shall be subject to amendment, revision, or modification. A license may be suspended or revoked by reason of amendments to the Act, by reason of rules in this chapter, or orders issued by the agency.

(2) Any license may be revoked, suspended, or modified, in whole or in part, for any of the following:

(A) any material false statement in the application or any statement of fact required under provisions of the Act;

(B) conditions revealed by such application or statement of fact or any report, record, or inspection, or other means that would warrant the agency to refuse to grant a license on an original application; or

(C) violation of, or failure to observe any of the terms and conditions of the Act, this chapter, the license, or order of the agency.

(3) Each specific license revoked by the agency ends at the end of the day on the date of the agency's final determination to revoke the license, or on the revocation date stated in the determination, or as otherwise provided by the agency order.

(4) Except in cases in which occupational and public health and safety or the environment require otherwise, no license shall be modified, suspended, or revoked unless, prior to the institution of proceedings therefore, facts or conduct that may warrant such action shall have been called to the attention of the licensee in writing and the licensee shall have been afforded an opportunity to demonstrate compliance with all lawful requirements.

(t) Waste processing and packaging requirements. All processed radioactive waste offered for transport or disposal shall meet:

(1) all applicable transportation requirements of the agency, the United States Nuclear Regulatory Commission, and of the DOT; and

(2) all applicable disposal facility license conditions.

(u) Environmental assessment. A written analysis of the impact on the human environment will be prepared or secured by the agency for any license for a class III processing or storage facility and shall be available to the public for written comment at least 30 days prior to the beginning of a hearing, if any, on the issuance or renewal of the license.

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(v) Waste processing and storage categories of radionuclides.

(1) The following table contains waste processing and storage categories of radionuclides.

Figure: 25 TAC §289.254(v)(1)

(2) Any radionuclide not specifically listed in paragraph (1) of this section shall be assigned to one of the categories in accordance with the following table.

Figure: 25 TAC §289.254(v)(2)

(3) For mixtures of radionuclides, the following shall apply.

(A) If the identity and respective activity of each radionuclide are known, the permissible activity of each radionuclide shall be such that the sum, for all categories present, of the ratio between the total activity for each category to the permissible activity for each category will not be greater than unity.

(B) If the categories of the radionuclides are known but the amount in each category cannot be reasonably determined, the mixture shall be assigned to the most restrictive category present.

(C) If the identity of all or some of the radionuclides cannot be reasonably determined, each of those unidentified radionuclides shall be considered as belonging to the most restrictive category that cannot be positively excluded.

(D) Mixtures consisting of a single radioactive decay chain where the radionuclides are in the naturally occurring proportions shall be considered as consisting of a single radionuclide. The category and activity shall be that of the first member present in the chain, except that if radionuclide "X" has a half-life longer than that of that first member and an activity greater than that of any other member, including the first, at any time during processing, the waste processing and storage category shall be that of nuclide "X" and the activity of the mixture shall be the maximum activity of nuclide "X" during processing.

LEGEND: (Proposed Amendment)

Single Underline = Proposed new language

**[Bold Print and Brackets]** = Current language proposed for deletion

Regular Print = Current language

(No change.) = No changes are being considered for designated subdivisions

§289.260. Licensing of Uranium Recovery and Byproduct Material Disposal Facilities.

(a) Purpose. This section provides for the specific licensing of the receipt, possession, use, or disposal of radioactive material in uranium recovery facilities and other operations that **[which]** accept byproduct material for disposal **[byproduct material]**. No person shall engage in such activities except as authorized in a specific license issued in accordance with **[pursuant to]** this section unless otherwise provided for in §289.252 of this title (relating to Licensing of Radioactive Material).

(b) Scope. In addition to the requirements of this section, all licensees, unless otherwise specified, are subject to the requirements of **[\$289.112 of this title (relating to Hearing and Enforcement Procedures), §289.114 of this title (relating to Notices, Instructions, and Reports to Workers; Inspections),]** §289.201 of this title (relating to General Provisions for Radioactive Material), §289.202 of this title (relating to Standards for Protection Against Radiation from Radioactive Material), §289.203 of this title (relating to Notices, Instructions, and Reports to Workers; Inspections), §289.204 of this title (relating to Fees for Certificates of Registration, Radioactive Material **[Material(s)]** Licenses, Emergency Planning and Implementation, and Other Regulatory Services), §289.205 of this title (relating to Hearing and Enforcement Procedures), §289.251 of this title (relating to Exemptions, General Licenses, and General License Acknowledgements), §289.252 of this title, and §289.257 of this title (relating to Packaging and Transportation of Radioactive Material).

(c) Definitions. The following words and terms when used in this section **[part]** shall have the following meaning unless the context clearly indicates otherwise.

(1)-(2) (No change.)

(3) Available technology - Technologies and methods for emplacing a final radon barrier on byproduct material piles or impoundments. This term shall not be construed to include extraordinary measures or techniques that would impose costs that are grossly excessive as measured by practice within the industry (or one that is reasonably analogous), (for example, [e.g.,] by way of illustration only, unreasonable overtime, staffing, or transportation requirements, etc., considering normal practice in the industry; laser fusion of soils; etc.), provided there is reasonable progress toward emplacement of the final radon barrier. To determine grossly excessive costs, the relevant baseline against which costs shall be compared is the cost estimate for tailings impoundment closure contained in the licensee's approved reclamation plan, but costs beyond these estimates shall not automatically be considered grossly excessive.

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(14)-(16) (No change.)

(17) Hazardous constituent - Subject to subsection (q)(10)(E) of this section, "hazardous constituent" is a constituent that [which] meets all three of the following tests:

(A) the [The] constituent is reasonably expected to be in or derived from the byproduct material in the disposal area;

(B) the [The] constituent has been detected in the groundwater in the uppermost aquifer; and

(C) the [The] constituent is listed in 10 CFR Part 40, Appendix A, Criterion 13.

(18)-(19) (No change.)

(20) Liner - A continuous layer of natural or man-made materials, beneath or on the sides of a surface impoundment that [which] restricts the downward or lateral escape of byproduct material, hazardous constituents, or leachate.

(21) Maximum credible earthquake - That earthquake that [which] would cause the maximum vibratory ground motion based upon an evaluation of earthquake potential considering the regional and local geology and seismology and specific characteristics of local subsurface material.

(22)-(23) (No change.)

(24) Point of compliance - The site-specific location in the uppermost aquifer where the groundwater protection standard shall [must] be met. The objective in selecting the point of compliance is to provide the earliest practicable warning that an impoundment is releasing hazardous constituents to the groundwater. The point of compliance is selected to provide prompt indication of groundwater contamination on the hydraulically downgradient edge of the disposal area.

(25) Principal activities - Activities authorized by the license that [which] are essential to achieving the purpose(s) for which the license is issued or amended. Storage during which no licensed material is accessed for use or disposal and activities incidental to decontamination or decommissioning are not principal activities.

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(26) Reclamation plan - For the purposes of subsection (q)(16)-(27) of this section, "reclamation plan" is the plan detailing activities to accomplish reclamation of the byproduct material disposal area in accordance with the technical criteria of this section. The reclamation plan shall [must] include a schedule for reclamation milestones that are key to the completion of the final radon barrier, including as appropriate, but not limited to, wind blown tailings retrieval and placement on the pile, interim stabilization (including dewatering or the removal of freestanding liquids and recontouring), and final radon barrier construction. Reclamation of byproduct material shall [must] also be addressed in the closure plan. The detailed reclamation plan may be incorporated into the closure plan.

(27) Security (surety) - The following are examples of security: ["security":]

(A)-(F) (No change.)

(28)-(31) (No change.)

(d) Filing application for specific licenses.

(1) Applications for specific licenses shall be filed in seven [eight] copies on BRC Form 252-2, "Application for Radioactive Material License." **[a form prescribed by the agency. Applications for issuance of licenses shall include an environmental report that includes the results of a one-year preoperational monitoring program. Applications for renewal of licenses shall include an environmental report that includes the results of the operational monitoring program.]**

(2) The agency may, at any time after the filing of the original application, **[and before the expiration of the license,]** require further statements or data to enable the agency to determine whether the application should be denied or the [whether a] license should be issued. [granted, modified, or revoked.]

(3) Each application shall be signed by the chief executive officer or other individual delegated the authority to manage, direct, or administer the licensee's activities. [the applicant or licensee or a person legally authorized to act for and on the applicant's or licensee's behalf.]

(4) An application for a license may include a request for one or more activities. The agency may require the issuance of separate licenses for those activities.

(5) The applicant shall demonstrate to the agency that the applicant is financially qualified to conduct the licensed activity, including any required decontamination, decommissioning, reclamation, and disposal, before the agency issues or renews a license. The requirement is different from those in subsection (o) of this section for financial security.

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(A) An applicant or licensee shall show financial qualification by submitting one of the following:

(i) the bonding company report or equivalent (from which information can be obtained to calculate a ratio as described in subparagraph (B) of this paragraph) that was used to obtain the financial security instrument used to meet the financial security requirement specified in subsection (o) of this section. However, if the applicant or licensee posted collateral to obtain the financial instrument used to meet the requirement for financial security specified in subsection (o) of this section, the applicant or licensee shall demonstrate financial qualification by one of the methods specified in clause (ii) or (iii) of this subparagraph;

(ii) SEC documentation (from which information can be obtained to calculate a ratio as described in subparagraph (B) of this paragraph), if the applicant or licensee is a publicly-held company; or

(iii) a self-test (for example, an annual audit report, certifying a company's assets and liabilities and resulting ratio (as described in subparagraph (B) of this paragraph) or, in the case of a new company, a business plan specifying expected expenses versus capitalization and anticipated revenues).

(B) Each applicant or licensee must declare its Standard Industry Classification (SIC) code. Several companies publish lists, on an annual basis, of acceptable assets-to-liabilities (assets divided by liabilities) ratio ranges for each type of SIC code. If an applicant or licensee submits documentation of its current assets and current liabilities or, in the case of a new company, a business plan specifying expected expenses versus capitalization and anticipated revenues, and the resulting ratio falls within an acceptable range as published by generally recognized companies (for example, Almanac of Business and Industrial Financial Ratios, Industry NORM and Key Business Ratios, Dun & Bradstreet Industry publications, and Manufacturing USA: Industry Analyses, Statistics, and Leading Companies), the agency will consider that applicant or licensee financially qualified to conduct the requested or licensed activity.

(C) The agency will consider other types of documentation if that documentation provides an equivalent measure of assurance of the applicant's or licensee's assets and liabilities and the resulting ratio.

**[(5) In any application, the applicant may incorporate by reference, information contained in previous applications, statements, or reports filed with the agency, provided that the reference is clear and specific.]**

**(6) [(7)] An application for a license shall contain written specifications relating to the uranium recovery facility operations [,] and the disposition of the byproduct material.**

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**[(6) [Applications and documents submitted to the agency will be made available for public inspection except that the agency may withhold any document or part thereof from public inspection if the applicant or licensee states in writing that disclosure of its content is not required in the public interest and would adversely affect the interest of a person concerned. Exceptions to agency decisions regarding disclosure are subject to the Texas Public Information Act, Government Code, Chapter 552.]**

**(7) [(8)] Each application shall **[must]** clearly demonstrate how the requirements of subsections (d)-(h) and (o)-(r) of this section have been addressed. **[Failure to clearly demonstrate how these requirements have been addressed shall be grounds for refusing to accept an application for filing.]****

**(8) [(9)] Each application for a [specific] license[, other than a license exempted from §289.204 of this title,] shall be accompanied by the fee prescribed in §289.204 of this title.**

**(9) [(10)] Each application shall be accompanied by a completed BRC Form 252-1, (Business Information Form).**

**(10) [(11)] Applications for new licenses shall be processed in accordance with the following time periods.**

**(A) The first period is the **[a]** time from receipt of an application by the Division of Licensing, Registration and Standards to the date of issuance or denial of the license or a written notice outlining why the application is incomplete or unacceptable. This time period is 180 days.**

**(B) The second period is the **[a]** time from receipt of the last item necessary to complete the application to the date of issuance or denial of the license. This time period is 180 days.**

**(C) These time periods are exclusive of any time period incident to hearings and post-hearing activities required by **[the]** Government Code, Chapters 2001 and 2002.**

**(11) [(12)] Notwithstanding the provisions of §289.204(e)(1) of this title, reimbursement of application fees may be granted in the following manner.**

**(A) In the event the application is not processed in the time periods as stated in paragraph (10) **[(11)]** of this subsection, the applicant has the right to request of the Director of the Radiation Control Program full reimbursement of all application fees paid in that particular application process. If the director **[Director]** does not agree that the established periods have been violated or finds that good cause existed for exceeding the established periods, the request will be denied.**

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(B) Good cause for exceeding the period established is considered to exist if:

(i) the number of applications for licenses to be processed exceeds by 15% or more the number processed in the same calendar quarter the preceding year;

(ii) another public or private entity utilized in the application process caused the delay; or

(iii) other conditions existed giving good cause for exceeding the established periods.

(C) If the request for full reimbursement authorized by subparagraph (A) of this paragraph is denied, the applicant may then request a hearing by appeal to the Commissioner of Health for a resolution of the dispute. The appeal will be processed in accordance with the Formal Hearing Procedures, §§1.21-1.34 of this title (relating to the Texas Board of Health).

(12) Applications for licenses may be denied for the following reasons:

(A) any material false statement in the application or any statement of fact required under provisions of the Texas Radiation Control Act (Act);

(B) conditions revealed by the application or statement of fact or any report, record, or inspection, or other means that would warrant the agency to refuse to grant a license on an application; or

(C) failure to clearly demonstrate how these requirements have been addressed.

(e) General requirements for the issuance of specific licenses. A license application will be approved if the agency determines that:

(1) the applicant and all personnel who will be handling the radioactive material are qualified by reason of training and experience to use the material in question for the purpose requested in accordance with these requirements in such a manner as to minimize danger to occupational and [protect] public health and safety and the environment;

(2) the applicant's proposed equipment, facilities, and procedures are adequate to minimize danger to occupational and [protect] public health and safety and the environment;

(3) the issuance of the license will not be inimical to occupational and public health and safety nor have a long-term detrimental impact on the environment;

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(4) qualifications of the designated radiation safety officer (RSO) are adequate for the purpose requested in the application and include as a minimum:

(A) possession of a high school diploma or a certificate of high school equivalency based on the GED test;

(B) completion of the training and testing requirements specified in this chapter for the activities for which the license application is submitted; and

(C) training and experience necessary to supervise the radiation safety aspects of the licensed activity;

**[(4) the applicant has demonstrated financial capability to conduct the proposed activity including all costs associated with decommissioning, decontamination, disposal, reclamation, and long-term care and maintenance; and]**

(5) the applicant satisfies all applicable special requirements in this section; and  
[.]

(6) there is no reason to deny the license as specified in subsection (d)(12) of this section.

(f) Special requirements for a **[specific]** license application for uranium recovery and byproduct material disposal facilities. In addition to the requirements **[set forth]** in subsection (e) of this section, a **[specific]** license will be issued if the applicant submits the items in paragraph (1) of this subsection for agency approval and meets the conditions in paragraphs (2) and (3) of this subsection **[to the agency a satisfactory application as described herein and meets the following other conditions specified.]**

(1) An application for a license shall include **[an environmental report that addresses]** the following:

(A) for new licenses, an environmental report that includes the results of a one-year preoperational monitoring program and for renewal of licenses, an environmental report containing the results of the operational monitoring program. Both shall also include the following:

(i) **[(A)]** description of the proposed project or action;

(ii) **[(B)]** area/site characteristics including ecology, geology, topography, hydrology, meteorology, historical and cultural landmarks, and archaeology;

(iii) **[(C)]** radiological and nonradiological impacts of the proposed project or action, including waterway and groundwater impacts and any long-term impacts;

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(iv) [(D)] environmental effects of accidents;

(v)[(E)] byproduct material disposal, decommissioning, decontamination, and reclamation and impacts of these activities; and

(vi) [(F)] site and project alternative;

(B) [(2)] [**The applicant shall provide**] a closure plan for decontamination, decommissioning, restoration, and reclamation of buildings and the site to levels that would allow unrestricted use and for reclamation of the byproduct material disposal areas in accordance with the technical requirements of subsection (q) of this section;[.]

**[(3) Unless otherwise exempted, the applicant shall not commence construction at the site until the agency has issued the license. Commencement of construction prior to issuance of the license shall be grounds for denial of a license.]**

(C) [(4)] [**Prior to issuance of the license, the applicant shall propose, for approval by the agency,**] proposal of an acceptable form and amount of financial security consistent with the requirements of subsection (o) of this section; [.]

(D) [(5)] [**The applicant shall provide**] procedures describing the means employed to meet the requirements of subsections (h)(7) and (8) [(h)(6), (h)(7),] and (q)(15) of this section during the operational phase of any project; [.]

(E) [(6)] [**An application for a license shall contain**] specifications for the emissions control and disposition of the byproduct material; and [.]

(F) [(7)] [**An application**] for disposal of byproduct material from others, [**shall include**] information on the chemical and radioactive characteristics of the wastes to be received, detailed procedures for receiving and documenting incoming waste shipments, and detailed waste acceptance criteria.

(2) Unless otherwise exempted, the applicant shall not begin construction at the site until the agency has issued the license. Commencement of construction prior to issuance of the license shall be grounds for denial of a license.

(3) Facility drawings submitted in conjunction with the application for a license shall be prepared by a professional engineer or engineering firm. Those drawings shall be final and shall be signed, sealed and dated in accordance with the requirements of the Texas Board of Professional Engineers, 22 Texas Administrative Code, Chapter 131.

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(g) Issuance of specific licenses.

(1) When the agency determines [Upon a determination] that an application meets the requirements of the Act [Texas Radiation Control Act (Act)] and the requirements of the agency, the agency will [may] issue a [specific] license authorizing the proposed activity in such form and containing the [such] conditions and limitations as it deems appropriate or necessary.

(2) The agency may incorporate in any license at the time of issuance or thereafter by amendment, additional requirements and conditions with respect to the licensee's receipt, possession, use, and transfer of radioactive material subject to this section [or thereafter by appropriate requirement or order, such additional requirements and conditions] as it deems appropriate or necessary in order to:

(A) minimize danger to occupational and [protect] public health and safety or the environment;

(B) require [such] reports and the keeping of [such] records, and to provide for [such] inspections of activities in accordance with [under] the license as may be appropriate or necessary; and

(C) prevent loss or theft of radioactive material subject to this chapter.  
[section.]

(3) The agency may also request additional information after the license has been issued to enable the agency to determine whether the license should be modified.

(h) Specific terms and conditions of license.

(1) Each license issued in accordance with this section shall be subject to the applicable provisions of the Act and to applicable rules, now or hereafter in effect, [and to all applicable rules] and orders of the agency.

(2) No license issued in accordance with this section and no right to possess or utilize radioactive material authorized by any license issued in accordance with this section [part] shall 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 agency shall, after securing full information, find that the transfer is in accordance with the provisions of the Act and to applicable rules, now and hereafter in effect, [and to applicable requirements] and orders of the agency, and shall give its consent in writing.

(3) Each person licensed by the agency in accordance with this section shall confine use and possession of the radioactive [licensed] material to the locations and purposes authorized in the license.

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(4) Each licensee shall notify the agency, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy.

(5) The notification in paragraph (4) of this subsection shall include:

(A) the bankruptcy court in which the petition for bankruptcy was filed;  
and

(B) the date of the filing of the petition.

(6) A copy of the petition for bankruptcy shall be submitted to the agency along with the written notification.

**(4) Each licensee shall notify the agency, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any Chapter of Title 11 (Bankruptcy) of the United States Code (11 USC) by or against:]**

**[(A) a licensee;]**

**[(B) an entity (as that term is defined in 11 USC 101(14)) controlling a licensee or listing the license or licensee as property of the estate; or]**

**[(C) an affiliate (as that term is defined in 11 USC 101(2)) of the licensee.]**

**(5) The notification required by paragraph (4) of this subsection must indicate:]**

**[(A) the bankruptcy court in which the petition for bankruptcy was filed;]**

**[(B) a copy of the bankruptcy petition; and]**

**[(C) the date of filing of the petition.]**

**(7) [(6)] Daily inspection of any byproduct material retention systems shall be conducted by the licensee. General qualifications for [such] individuals conducting [such] inspections shall be approved by the agency. Records of the inspections shall be maintained for review by the agency.**

**(8) [(7)] In addition to the applicable requirements of §289.202(ww)-(yy) of this title, [and §289.252(r) of this title,] the licensee shall immediately notify the agency of the following:**

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(A) any failure in a byproduct material retention system that [which] results in a release of byproduct material into unrestricted areas;

(B) any release of radioactive material that [which] exceeds the concentrations for water listed in Table II, Column 2, of §289.202(ggg)(2) of this title and that [which] extends beyond the licensed boundary;

(C) any spill that [which] exceeds 20,000 gallons and that [which] exceeds the concentrations for water listed in Table II, Column 2, of §289.202(ggg)(2) of this title; or

(D) any release of solids that [which] exceeds the **[contamination]** limits in subsection (i)(4) of this section [§289.202)(ddd) of this title] and that extends beyond the licensed boundary.

(9) [(8)] In addition to the applicable requirements of §289.202(ww)-(yy) of this title, **[and §289.252(r) of this title,]** the licensee shall notify the agency within 24 hours of the following:

(A) any spill that extends:

(i) beyond the wellfield monitor well ring;

(ii) more than 400 feet from an injection or production well pipe artery to or from a recovery plant; or

(iii) more than 200 feet from a recovery plant; or

(B) any spill that [which] exceeds 2,000 gallons and that [which] exceeds the concentrations for water listed in Table II, Column 2, of §289.202(ggg)(2) of this title.

(10) A licensee shall submit to the agency at five year intervals from the issuance of the license or at the time of renewal, if renewal and reevaluation occur in the same year, continued proof of the licensee's financial qualifications.

(i) Expiration and termination of licenses and decommissioning of sites, separate buildings, or outdoor areas.

(1) Except as provided in paragraph (2) [(4)] of this subsection and subsection (j)(2) of this section, each specific license expires [shall expire] at the end of the day, in the month and year stated in the license.

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**[(2) Each licensee shall notify the agency immediately, in writing, and request termination of the license when the licensee decides to terminate all activities involving materials authorized under the license. This notification and request for termination of the license must include the reports and information specified in paragraphs (6) and (17) of this subsection. The licensee is subject to the provisions of paragraphs (4)-(18) of this subsection, as applicable.]**

**[(3) No less than 90 days before the expiration date specified in a specific license, the licensee shall either:]**

**[(A) submit an application for license renewal under subsection (j) of this section; or]**

**[(B) notify the agency in writing, under paragraph (2) of this subsection, if the licensee decides to discontinue all activities involving radioactive material.]**

**(2) [(4) All license provisions continue [Each specific license continues] in effect[,] beyond the expiration date [if necessary,] with respect to possession of radioactive [source] material until the agency notifies the former licensee in writing that the provisions of the license are no longer binding. [license is terminated.] During this time, the former licensee shall:**

**(A) be limited to actions involving radioactive material that are related to decommissioning; [limit actions involving source material to those related to decommissioning;] and**

**(B) continue to control entry to restricted areas until the location(s) is [they are] suitable for release for unrestricted use in accordance with the requirements of paragraph (4) of this subsection. [in accordance with agency requirements.]**

**(3) [(5) Within 60 days of the occurrence of any of the following, each licensee shall provide notification to the agency in writing and either begin decommissioning its site, or any separate buildings or outdoor areas that contain residual radioactivity in accordance with the closure plan in subsection (f)(1)(B) [(f)(2)] of this section, so that the buildings or outdoor areas are suitable for release in accordance with paragraph (4) of this subsection [agency requirements,] if:**

**(A) the license has expired in accordance with paragraph (1) of this subsection; or**

**(B) the licensee has decided to permanently cease principal activities, as defined in subsection (c)(25) of this section, at the entire site or in any separate building or outdoor area; or**

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(C) no principal activities have been conducted for a period of 24 months in any separate building or outdoor area that contains residual radioactivity such that the building or outdoor area is unsuitable for release in accordance with agency requirements.

(4) Outdoor areas are considered suitable for release for unrestricted use if the following limits are not exceeded.

(A) The concentration of radium-226 or radium-228 in soil, averaged over any 100 square meters (m<sup>2</sup>), shall not exceed the background level by more than:

(i) 5 picocuries per gram (pCi/g) (0.185 becquerel per gram (Bq/g)), averaged over the first 15 cm of soil below the surface; and

(ii) 15 pCi/g (0.555 Bq/g), averaged over 15 cm thick layers of soil more than 15 cm below the surface.

(B) The contamination of vegetation shall not exceed 5 pCi/g (0.185 Bq/g), based on dry weight, for radium-226 or radium-228.

(C) The concentration of natural uranium in soil, with no daughters present, averaged over any 100 m<sup>2</sup>, shall not exceed the background level by more than:

(i) 30 pCi/g (1.11 Bq/g), averaged over the top 15 cm of soil below the surface; and

(ii) 150 pCi/g (5.55 Bq/g), average concentration at depths greater than 15 centimeters below the surface so that no individual member of the public will receive an effective dose equivalent in excess of 100 mrem (1 mSv) per year.

(5) [(6)] Coincident with the notification required by paragraph (3) [(5)] of this subsection, the licensee shall maintain in effect all decommissioning financial security established by the licensee in accordance with subsection (o) of this section in conjunction with a license issuance or renewal or as required by this section. The amount of the financial security shall [must] be increased, or may be decreased, as appropriate, with agency approval, to cover the detailed cost estimate for decommissioning established in accordance with paragraph (11)(E) [(12)(F)] of this subsection.

(A) Any licensee who has not provided financial security to cover the detailed cost estimate submitted with the closure plan shall do so on or before September 1, 1998.

(B) Following approval of the closure plan, a licensee may reduce the amount of the financial security, with the approval of the agency, as decommissioning proceeds and radiological contamination is reduced at the site.

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(6) [(7)] In addition to the provisions of paragraph (5) [(6)] of this subsection, each licensee shall submit an updated closure plan to the agency within 12 months of the notification required by paragraph (3) [(5)] of this subsection. The updated closure plan shall meet the requirements of subsections (f)(1)(B) [(f)(2)] and (o) of this section. The updated closure plan shall describe the actual conditions of the facilities and site and the proposed closure activities and procedures.

(7) [(8)] The agency may grant a request to delay or postpone initiation of the decommissioning process if the agency determines that such relief is not detrimental to the occupational and public health and safety and is otherwise in the public interest. The request shall [must] be submitted no later than 30 days before notification in accordance with paragraph (3) [(5)] of this subsection. The schedule for decommissioning [set forth] in paragraph (3) [(5)] of this subsection may not begin [commence] until the agency has made a determination on the request.

(8) [(9)] A decommissioning plan shall [must] be submitted if required by license condition or if the procedures and activities necessary to carry out decommissioning of the site or separate building or outdoor area have not been previously approved by the agency and these procedures could increase potential health and safety impacts to workers or to the public, such as in any of the following cases:

(A) procedures [Procedures] would involve techniques not applied routinely during cleanup or maintenance operations;

(B) workers [Workers] would be entering areas not normally occupied where surface contamination and radiation levels are significantly higher than routinely encountered during operation;

(C) procedures [Procedures] could result in significantly greater airborne concentrations of radioactive materials than are present during operation; or

(D) procedures [Procedures] could result in significantly greater releases of radioactive material to the environment than those associated with operation.

(9) [(10)] The agency may approve an alternate schedule for submittal of a decommissioning plan required in accordance with paragraph (3) [(5)] of this subsection if the agency determines that the alternative schedule is necessary to the effective conduct of decommissioning operations and presents no undue risk from radiation to the occupational and public health and safety and is otherwise in the public interest.

(10) [(11)] The procedures listed in paragraph (8) [(9)] of this subsection may not be carried out prior to approval of the decommissioning plan.

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(11) [(12)] The proposed decommissioning plan for the site or separate building or outdoor area shall [**must**] include:

(A) a description of the conditions of the site, separate buildings, or outdoor area sufficient to evaluate the acceptability of the plan;

(B) a description of planned decommissioning activities;

(C) a description of methods used to ensure protection of workers and the environment against radiation hazards during decommissioning;

(D) a description of the planned final radiation survey;

(E) an updated detailed cost estimate for decommissioning, comparison of that estimate with present funds set aside for decommissioning, and a plan for assuring the availability of adequate decommissioning; and

(F) for decommissioning plans calling for completion of decommissioning later than 24 months after plan approval, a justification for the delay based on the criteria in paragraph (15) of this subsection. [a justification for the delay based on the criteria in paragraph (16) of this subsection for decommissioning plans calling for completion of decommissioning later than 24 months after plan approval.]

(12) [(13)] The proposed decommissioning plan will be approved by the agency if the information in the plan [**therein**] demonstrates that the decommissioning will be completed as soon as practicable and that the occupational health and safety of workers and the public will be adequately protected.

(13) [(14)] Except as provided in paragraph (15) [(16)] of this subsection, licensees shall complete decommissioning of the site or separate building or outdoor area as soon as practicable but no later than 24 months following the initiation of decommissioning.

(14) [(15)] Except as provided in paragraph (15) [(16)] of this subsection, when decommissioning involves the entire site, the licensee shall request license termination as soon as practicable but no later than 24 months following the initiation of decommissioning.

(15) [(16)] The agency may approve a request for an alternate schedule for completion of decommissioning of the site or separate buildings or outdoor areas [**area**], and the license termination if appropriate, if the agency determines that the alternative is warranted by the consideration of the following:

(A) whether it is technically feasible to complete decommissioning within the allotted 24-month period;

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(B) whether sufficient waste disposal capacity is available to allow completion of decommissioning within the allotted 24-month period; and

(C) other site-specific factors that the agency may consider appropriate on a case-by-case basis, such as the regulatory requirements of other government agencies, lawsuits, groundwater treatment activities, monitored natural groundwater restoration, actions that could result in more environmental harm than deferred cleanup, and other factors beyond the control of the licensee.

(16) [(17)] As the final step in decommissioning, the licensee shall:

(A) certify the disposition of all radioactive [licensed] material, including accumulated byproduct material;

(B) conduct a radiation survey of the premises where the licensed activities were carried out and submit a report of the results of this survey unless the licensee demonstrates that the premises are suitable for release in accordance with paragraph (4) of this subsection. [in some other manner.] The licensee shall, as appropriate;

(i) report the following levels:

(I) gamma radiation in units of microrentgen per hour ( $\mu$ R/hr) (millisieverts per hour (mSv/hr)) at 1 meter (m) from surfaces;

(II) radioactivity, including alpha and beta, in units of disintegrations per minute (dpm) or microcuries ( $\mu$ Ci) (megabecquerels (MBq)) per 100 square centimeters ( $\text{cm}^2$ ) for surfaces;

(III)  $\mu$ Ci (MBq) per milliliter for water; and

(IV) picocuries (pCi) (becquerels (Bq)) per gram (g) for solids such as soils or concrete; and

**[(i) report levels of gamma radiation in units of microrentgen per hour (micro;R/hr) (millisieverts per hour (mSv/hr)) at 1 meter (m) from surfaces, and report levels of radioactivity, including alpha and beta, in units of disintegrations per minute (dpm) or microcuries (micro;Ci) (megabecquerels (MBq)) per 100 square centimeters ( $\text{cm}^2$ ) removable and fixed for surfaces, micro;Ci (MBq) per milliliter for water, and picocuries (pCi) (becquerels (Bq)) per gram (g) for solids such as soils or concrete; and]**

(ii) specify the manufacturer's name, and model and serial number of survey instrument(s) used and certify that each instrument is properly calibrated and tested.

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(17) [(18)] The agency will provide written notification to specific licensees, including former licensees with license provisions continued in effect beyond the expiration date in accordance with paragraph (2) of this subsection, that the provisions of the license are no longer binding. The agency will provide such notification when the agency determines that: [Specific licenses, including expired licenses, will be terminated by license amendment when the agency determines that:]

(A) radioactive material [source material and byproduct material] has been properly disposed;

(B) reasonable effort has been made to eliminate residual radioactive contamination, if present;

(C) a radiation survey has been performed that [which] demonstrates that the premises are suitable for release in accordance with agency requirements;

(D) other information submitted by the licensee is sufficient to demonstrate that the premises are suitable for release in accordance with the requirements of paragraph (4) of this subsection; [agency requirements;]

(E) all records required by §289.202(nn)(2) of this title have been submitted to the agency; [records required by §289.251(l)(4)(C) of this title have been received;]

(F) the licensee has paid any outstanding fees required by §289.204 of this title and has resolved any outstanding notice(s) of violation issued to the licensee;

(G) the licensee has met the applicable technical and other requirements for closure and reclamation of a byproduct material disposal site; and

(H) the United States Nuclear Regulatory Commission (NRC) has made a determination that all applicable standards and requirements have been met.

(18) [(19)] Licenses [Specific licenses] for uranium recovery and byproduct material disposal are exempt from paragraphs (3)(C), (6), and (7) [(5)(C), (7), and (8)] of this subsection with respect to reclamation of byproduct material impoundments and/or disposal areas. Timely reclamation plans for byproduct material disposal areas shall [must] be submitted and approved in accordance with subsection (q)(16)-(27) [(q)(16)-(q)(27)] of this section.

**[(20) The agency may terminate a specific license upon written request submitted by the licensee to the agency in accordance with this subsection.]**

(19) [(21)] A licensee may request that a subsite or a portion of a licensed site be released for unrestricted use before full license termination as long as release of the area of concern will not adversely impact the remaining unaffected areas and will not be recontaminated

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by ongoing authorized activities. When the licensee is confident that the area of concern will be acceptable to the agency for release for unrestricted use, a written request for release for unrestricted use and agency confirmation of closeout work performed shall [must] be submitted to the agency. The request should include a comprehensive report, accompanied by survey and sample results that show contamination is less than the limits specified in paragraph (4) of this subsection [§289.202(ddd) of this title] and an explanation of how ongoing authorized activities will not adversely affect the area proposed to be released. Upon confirmation by the agency that the area of concern is releasable for unrestricted use, the licensee may apply for a license amendment, if required.

(j) Renewal of license.

(1) Request for renewal of specific licenses shall be filed in accordance with subsections (d)(1)-(8) and (10), and (f)(1) of this section. **[subsection (d) of this section with the exception of subsection (d)(9) of this section.] In any application for renewal, the applicant may incorporate drawings by reference.**

(2) In any case in which a licensee, not less than 30 [90] days prior to expiration of the existing license, has filed a request in proper form for renewal or for a new license authorizing the same activities, such existing license shall not expire until the application has been finally determined by the agency.

(k) (No change.)

(l) Agency action on applications to renew or amend. In considering a request by a licensee to renew or amend a **[the]** license, the agency will apply the appropriate criteria **[set forth]** in subsections (e) and (f) of this section.

(m) Transfer of material.

(1) No licensee shall transfer radioactive material except as authorized in accordance with this chapter. [section.]

(2) Except as otherwise provided in a license and subject to the provisions of paragraphs (3) and (4) of this subsection, any licensee may transfer radioactive material:

(A)-(C) (No change.)

(D) to any person authorized to receive such material in accordance with [under] terms of a general license or its equivalent, [or] a specific license or equivalent licensing document **[documents,]** issued by the agency, the NRC, any agreement state, any licensing state, or to any person otherwise authorized to receive such material by the federal government or any agency of the federal government, [thereof,] or the agency; **[, or any agreement state;]**

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(E)-(F) (No change.)

(3) Before transferring radioactive material to a specific licensee of the agency, the NRC, an agreement state, a licensing state, or to a general licensee who is required to register with the agency, **[the NRC, or an agreement state, prior to receipt of the radioactive material,]** the licensee transferring the radioactive material shall verify that the transferee's license authorizes the receipt of the type, form, and quantity of radioactive material to be transferred.

(4)-(5) (No change.)

(n) Modification and revocation of licenses.

(1) The terms and conditions of all licenses shall be subject to amendment, revision, or modification. A license may be suspended or revoked by reason of amendments to the Act, **[or]** by reason of rules in this chapter, or orders issued by the agency.

(2) Any license may be revoked, suspended, or modified, in whole or in part for any of the following:

(A) **[for]** any material false statement in the application or any statement of fact required under provisions of the Act; **[or]**

(B) **[because of]** conditions revealed by such application or statement of fact or any report, record, or inspection, or other means that would warrant the agency to refuse to issue a license on an original application; or

(C) **[for]** violation of, or failure to observe any of the [applicable] terms and conditions of the Act, this chapter, **[or of]** the license, **[or of any requirement]** or order of the agency.

(3) Except in cases **[of willful violation of the Act or these requirements or cases]** in which **[protection of the]** occupational and public health and safety or the environment require otherwise, no license shall be modified, suspended, or revoked unless, prior to the institution of proceedings therefore, facts or conduct that may warrant such action shall have been called to the attention of the licensee in writing and the licensee shall have been afforded an opportunity to demonstrate **[or achieve]** compliance with all lawful requirements.

**[(4) The agency may terminate a specific license upon written request submitted by the licensee to the agency in accordance with subsection (i) of this section.]**

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(4) [(5)] Each specific license revoked by the agency expires at the end of the day on the date of the agency's [Agency's] final determination to revoke the license, or on the revocation [expiration] date stated in the determination, or as otherwise provided by agency order.

(o) Financial security requirements.

(1) Financial security for decontamination, decommissioning, reclamation, restoration, disposal, and any other requirements of the agency shall be established by each licensee prior to the commencement of operations to assure that sufficient funds will be available to carry out the decontamination and decommissioning of buildings and the site and for the reclamation of any byproduct material disposal areas. The amount of funds to be ensured by such security arrangements shall [must] be based on agency-approved cost estimates in an agency-approved closure plan for:

(A) decontamination and decommissioning of buildings and the site to levels that [which] allow unrestricted use of these areas upon decommissioning; and

(B) (No change.)

(2) (No change.)

(3) The security shall [must] also cover the payment of the charge for long-term surveillance and control for byproduct material disposal areas required by subsection (p)(3) of this section.

(4) (No change.)

(5) The security shall be continuous for the term of the license and shall be payable in the state of Texas to the Radiation and Perpetual Care Fund.

(6) [(5)] The licensee's security mechanism will be reviewed annually by the agency to assure that sufficient funds would be available for completion of the reclamation plan if the work had to be performed by an independent contractor. The amount of security liability should be adjusted to recognize any increases or decreases resulting from inflation, changes in engineering plans, activities performed, and any other conditions affecting costs.

(7) [(6)] Regardless of whether reclamation is phased through the life of the operation or takes place at the end of operations, an appropriate portion of security liability shall [must] be retained until final compliance with the reclamation plan is determined. This will yield a security that is at least sufficient at all times to cover the costs of decommissioning and reclamation of the areas that are expected to be disturbed before the next license renewal. The term of the security mechanism shall [must] be open ended. **[unless it can be demonstrated that another arrangement would provide an equivalent level of assurance.]** This assurance would be

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provided with a security instrument that is written for a specified period of time (for example, [e.g.,] five years) yet which shall [must] be automatically renewed unless the security notifies the agency and the licensee some reasonable time (for example, [e.g.,] 90 days) prior to the renewal date of their intention not to renew. In such a situation the security requirement still exists and the licensee would be required to submit an acceptable replacement security within a brief period of time to allow at least 60 days for the agency to collect.

~~(8)~~**(7)** Proof of forfeiture shall [must] not be necessary to collect the security so that in the event that the licensee could not provide an acceptable replacement security within the required time, the security shall be automatically collected prior to its expiration. The conditions described above would have to be clearly stated on any security instrument, **[which is not open-ended,]** and shall [must] be agreed upon by all parties.

~~(9)~~**(8)** Self-insurance, or any arrangement that essentially constitutes self insurance (for example, [e.g.,] a contract with a state or federal agency), will not satisfy the security requirement since this provides no additional assurance other than that which already exists through license requirements.

(p) Long-term care and maintenance requirements.

(1)-(2) (No change.)

(3) A minimum charge of \$250,000 (1978 dollars) or more, if demonstrated as necessary by the agency, shall be paid into the Radiation and Perpetual Care Fund to cover the costs of long-term care and maintenance. The total charge shall be paid prior to the termination of a license. With agency approval, the charge may be paid in installments. The total or unpaid portion of the charge shall be covered during the term of the license by additional security meeting the requirements of subsection (o) of this section. If site surveillance, control, or maintenance requirements at a particular site are determined, on the basis of a site-specific evaluation, to be significantly greater (for example, [e.g.,] if fencing or monitoring is determined to be necessary), the agency may specify a higher charge. The total charge shall [must] be such that, with an assumed 1.0% annual real interest rate, the collected funds will yield interest in an amount sufficient to cover the annual costs of site care, surveillance, and where necessary, maintenance. Prior to actual payment, the total charge will be adjusted annually for inflation. The inflation rate to be used is that indicated by the change in the Consumer Price Index published by the United States Department of Labor, Bureau of Labor Statistics.

(4) (No change.)

(q) Technical requirements.

(1)-(2) (No change.)

(3) The site selection process shall [must] be an optimization to the maximum extent reasonably achievable in terms of these site features.

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(4)-(5) (No change.)

(6) The applicant's environmental report shall evaluate alternative sites and disposal methods and shall consider disposal of byproduct material by placement below grade. Where full below grade burial is not practicable, the size of retention structures, and size and steepness of slopes associated with exposed embankments shall be minimized by excavation to the maximum extent reasonably achievable or appropriate given the geologic and hydrologic conditions at a site. In these cases, it shall **[must]** be demonstrated that an above grade disposal program will provide reasonably equivalent isolation of the byproduct material from natural erosional forces.

(7) To avoid proliferation of small waste disposal sites and thereby reduce perpetual surveillance obligations, byproduct material from in situ extraction operations, such as residues from solution evaporation or contaminated control processes, and wastes from small remote above ground extraction operations shall **[must]** be disposed of at existing large mill tailings disposal sites; unless, considering the nature of the wastes, such as their volume and specific activity, and the costs and environmental impacts of transporting the wastes to a large disposal site, such offsite disposal is demonstrated to be impracticable or the advantages of onsite burial clearly outweigh the benefits of reducing the perpetual surveillance obligations.

(8) The following site and design requirements shall be adhered to whether byproduct material is disposed of above or below grade:

(A) the upstream rainfall catchment areas shall **[must]** be minimized to decrease erosion potential by flooding that **[which]** could erode or wash out sections of the byproduct material disposal area;

(B) (No change.)

(C) the embankment and cover slopes shall be relatively flat after final stabilization to minimize erosion potential and to provide conservative factors of safety assuring long term stability. The objective should be to contour final slopes to grades that **[which]** are as close as possible to those that **[which]** would be provided if byproduct material was disposed of below grade. Slopes shall not be steeper than 5 horizontal to 1 vertical (5h:1v), except as specifically authorized by the agency. Where steeper slopes are proposed, reasons why a slope steeper than 5h:1v would be as equally resistant to erosion shall be provided, and compensating factors and conditions that **[which]** make such slopes acceptable shall be identified;

(D) (No change.)

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(E) where a full vegetative cover is not likely to be self-sustaining due to climatic conditions, such as in semi-arid and arid regions, rock cover shall be employed on slopes of the impoundment system. The agency will consider relaxing this requirement for extremely gentle slopes, such as those that **[which]** may exist on the top of the pile;

(F) (No change.)

(G) individual rock fragments shall be dense, sound, and resistant to abrasion, and shall **[must]** be free from cracks, seams, and other defects that would tend to unduly increase their destruction by erosion and weathering action. Local rock materials are permissible provided the characteristics under local climatic conditions indicate similar long-term performance as a protective layer. Weak, friable, or laminated aggregate may not be used;

(H) rock covering of slopes may not be required where top covers are very thick (on the order of 10 m or greater); impoundment slopes are very gentle (on the order of 10h:1v or less); bulk cover materials have inherently favorable erosion resistance characteristics; **[and]** there is negligible drainage catchment area upstream of the pile; [,] and there is good wind protection;

(I)-(K) (No change.)

(9) Groundwater protection. The following groundwater protection requirements and those in paragraphs (10) and (11) of this subsection and subsection (s) of this section apply during operations and until closure is completed. Groundwater monitoring to comply with these standards is required by paragraphs (28) and (29) of this subsection.

(A)-(B) (No change.)

(C) The applicant or licensee will be exempted from the requirements of subparagraph (A) of this paragraph if the agency finds, based on a demonstration by the applicant or licensee, that alternate design and operating practices, including the closure plan, together with site characteristics will prevent the migration of any hazardous constituents into groundwater or surface water at any future time. In deciding whether to grant an exemption, the agency will consider:

(i)-(iii) (No change.)

(iv) all other factors that **[which]** would influence the quality and mobility of the leachate produced and the potential for it to migrate to groundwater or surface water.

(D)-(E) (No change.)

(10) Byproduct materials shall be managed to conform to the following secondary groundwater protection requirements:

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(A) hazardous constituents, as defined in subsection (c)(17) of this section, entering the groundwater from a licensed site shall [must] not exceed the specified concentration limits in the uppermost aquifer beyond the point of compliance during the compliance period.

(B)-(E) (No change.)

(F) In making any determinations under subparagraphs (E) and (H) of this paragraph about the use of groundwater in the area around the facility, the agency will consider any identification of underground sources of drinking water and exempted aquifers made by the United States Environmental Protection Agency (EPA) and the Texas Natural Resource Conservation Commission (Commission).

(G) (No change.)

(H) Alternate concentration limits to background concentration or to the drinking water limits in subsection (s) of this section that present no significant hazard may be proposed by licensees for agency consideration. Licensees shall provide the basis for any proposed limits including consideration of practicable corrective actions, evidence that limits are as low as reasonably achievable, and information on the factors the agency shall [must] consider. The agency will establish a site-specific alternate concentration limit for a hazardous constituent, as provided in subparagraph (G) of this paragraph, if it finds that the proposed limit is as low as reasonably achievable, after considering practicable corrective actions, and that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the alternate concentration limit is not exceeded. In making the present and potential hazard finding, the agency will consider the factors listed in subparagraph (D) of this paragraph.

(11) If the groundwater protection standards established under subparagraph (D) of this paragraph are exceeded at a licensed site, a corrective action program shall [must] be put into operation as soon as is practicable, and in no event later than 18 months after the agency finds that the standards have been exceeded. The licensee shall submit the proposed corrective action program and supporting rationale for agency approval prior to putting the program into operation, unless otherwise directed by the agency. The licensee's proposed program shall [must] address removing or treating in place any hazardous constituents that exceed concentration limits in groundwater between the point of compliance and downgradient licensed site boundary. The licensee shall continue corrective action measures to the extent necessary to achieve and maintain compliance with the groundwater protection standard. The agency will determine when the licensee may terminate corrective action measures based on data from the groundwater monitoring program and other information that provides reasonable assurance that the groundwater protection standard will not be exceeded.

(12) In developing and conducting groundwater protection programs, applicants and licensees shall also consider the following:

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(A) (No change.)

(B) mill process designs that [**which**] provide the maximum practicable recycle of solutions and conservation of water to reduce the net input of liquid to the byproduct material impoundment;

(C)-(D) (No change.)

(13)-(15) (No change.)

(16) In disposing of byproduct material, licensees shall place an earthen cover over the byproduct material at the end of the facility's operations and shall close the waste disposal area in accordance with a design that [**which**] provides reasonable assurance of control of radiological hazards to the following:

(A)-(B) (No change.)

(17) In computing required byproduct material cover thicknesses, moisture in soils in excess of amounts found normally in similar soils in similar circumstances shall not be considered. Direct gamma exposure from the byproduct material should be reduced to background levels. The effects of any thin synthetic layer shall not be taken into account in determining the calculated radon exhalation level. Cover shall not include materials that [**which**] contain elevated levels of radium. Soils used for near-surface cover shall [**must**] be essentially the same, as far as radioactivity is concerned, as that of surrounding surface soils. If non-soil materials are proposed as cover materials, the licensee shall demonstrate that such materials will not crack or degrade by differential settlement, weathering, or other mechanisms over the long term.

(18) As soon as reasonably achievable after emplacement of the final cover to limit releases of radon-222 from uranium byproduct material and prior to placement of erosion protection barriers or other features necessary for long-term control of the tailings, the licensee shall verify through appropriate testing and analysis that the design and construction of the final radon barrier is effective in limiting releases of radon-222 to a level not exceeding 20pCi/m<sup>2</sup>s [**20 pCi/m<sup>2</sup>s**] averaged over the entire pile or impoundment using the procedures described in Appendix B, method 115 of 40 CFR Part 61, or another method of verification approved by the agency as being at least as effective in demonstrating the effectiveness of the final radon barrier.

(19) When phased emplacement of the final radon barrier is included in the applicable reclamation plan, as defined in subsection (c)(26) of this section, the verification of radon-222 release rates required in paragraph (30) of this subsection shall [**must**] be conducted for each portion of the pile or impoundment as the final radon barrier for that portion is emplaced.

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(20) Within 90 days of the completion of all testing and analysis relevant to the required verification in paragraphs (30)(C) and (30)(D) of this subsection, the uranium recovery licensee shall report to the agency the results detailing the actions taken to verify that levels of release of radon-222 do not exceed  $20 \text{ pCi/m}^2\text{s}$  [**20 pCi/m<sup>2</sup>/s**] when averaged over the entire pile or impoundment. The licensee shall maintain records documenting the source of input parameters, including the results of all measurements on which they are based, the calculations and/or analytical methods used to derive values for input parameters, and the procedure used to determine compliance. These records shall be maintained until termination of the license and shall be kept in a form suitable for transfer to the custodial agency at the time of transfer of the site to the state or federal government in accordance with subsection (r) of this section.

(21) Near-surface cover materials may not include waste, rock, or other materials that contain elevated levels of radium. Soils used for near-surface cover shall [**must**] be essentially the same, as far as radioactivity is concerned, as surrounding surface soils. This is to ensure that surface radon exhalation is not significantly above background because of the cover material itself.

(22) The design requirements for longevity and control of radon releases apply to any portion of a licensed and/or disposal site unless such portion contains a concentration of radium in land averaged over areas of 100 square meters ( $\text{m}^2$ ), [**m<sup>2</sup>**] that, as a result of byproduct material, does not exceed the background level by more than:

(A)-(B) (No change.)

(23) (No change.)

(24) For impoundments containing uranium byproduct materials, the final radon barrier shall [**must**] be completed as expeditiously as practicable considering technological feasibility after the pile or impoundment ceases operation in accordance with a written reclamation plan, as defined in subsection (c)(26) of this section, approved by the agency, by license amendment. (The term "as expeditiously as practicable considering technological feasibility" includes "factors beyond the control of the licensee.") Deadlines for completion of the final radon barrier and applicable interim milestones shall [**must**] be established as license conditions. Applicable interim milestones may include, but are not limited to, the retrieval of windblown byproduct material and placement on the pile and the interim stabilization of the byproduct material (including dewatering or the removal of freestanding liquids and recontouring). The placement of erosion protection barriers or other features necessary for long-term control of the byproduct material shall [**must**] also be completed in a timely manner in accordance with a written reclamation plan approved by the agency by license amendment.

(25) The agency may approve by license amendment a licensee's request to extend the time for performance of milestones related to emplacement of the final radon barrier if, after providing an opportunity for public participation, the agency finds that the licensee has adequately demonstrated in the manner required in paragraph (18) of this subsection that releases

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of radon-222 do not exceed an average of  $20 \text{ pCi/m}^2\text{s}$ . **[20 pCi/m<sup>2</sup>/s]** If the delay is approved on the basis that the radon releases do not exceed  $20 \text{ pCi/m}^2\text{s}$ , **[20 pCi/m<sup>2</sup>/s]** a verification of radon levels, as required by paragraph (18) of this subsection, shall **[must]** be made annually during the period of delay. In addition, once the agency has established the date in the reclamation plan for the milestone for completion of the final radon barrier, the agency may by license amendment extend that date based on cost if, after providing an opportunity for public participation, the agency finds that the licensee is making good faith efforts to emplace the final radon barrier, the delay is consistent with the definition of "available technology," and the radon releases caused by the delay will not result in a significant incremental risk to the public health.

(26) The agency may authorize by license amendment, upon licensee request, a portion of the impoundment to accept uranium byproduct material, or such materials that are similar in physical, chemical, and radiological characteristics to the uranium mill tailings and associated wastes already in the pile or impoundment, from other sources during the closure process. No such authorization will be made if it results in a delay or impediment to emplacement of the final radon barrier over the remainder of the impoundment in a manner that will achieve levels of radon-222 releases not exceeding  $20 \text{ pCi/m}^2\text{s}$  **[20 pCi/m<sup>2</sup>/s]** averaged over the entire impoundment. The verification required in paragraph (18) of this subsection may be completed with a portion of the impoundment being used for further disposal if the agency makes a final finding that the impoundment will continue to achieve a level of radon-222 release not exceeding  $20 \text{ pCi/m}^2\text{s}$  **[20 pCi/m<sup>2</sup>/s]** averaged over the entire impoundment. After the final radon barrier is complete except for the continuing disposal area, only byproduct material will be authorized for disposal, and the disposal will be limited to the specified existing disposal area. This authorization by license amendment will only be made after providing opportunity for public participation. Reclamation of the disposal area, as appropriate, shall **[must]** be completed in a timely manner after disposal operations cease in accordance with paragraph (16) of this subsection. These actions are not required to be complete as part of meeting the deadline for final radon barrier construction.

(27)-(28) (No change.)

(29) The licensee shall establish a detection monitoring program needed for the agency to set the site-specific groundwater protection standards in paragraph (10)(D) of this subsection. For all monitoring under this paragraph, the licensee or applicant will propose, as license conditions for agency approval, which constituents are to be monitored on a site-specific basis. The data and information shall provide a sufficient basis to identify those hazardous constituents that **[which]** require concentration limit standards and to enable the agency to set the limits for those constituents and compliance period. They may provide the basis for adjustments to the point of compliance. The detection monitoring program shall **[must]** be in place when specified by the agency in orders or license conditions. Once groundwater protection standards have been established in accordance with paragraph (10)(D) of this subsection, the licensee shall establish and implement a compliance monitoring program. In conjunction with a corrective action program, the licensee shall establish and implement a corrective action monitoring program to demonstrate the effectiveness of the corrective actions. Any monitoring program required by

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this paragraph may be based on existing monitoring programs to the extent the existing programs can meet the stated objective for the program.

(30) Systems shall be designed and operated so that all airborne effluent releases are as low as is reasonably achievable. The primary means of accomplishing this shall be by means of emission controls. Institutional controls, such as extending the site boundary and exclusion area, may be employed to ensure that offsite exposure limits are met, but only after all practicable measures have been taken to control emissions at the source.

(A) During operations and prior to closure, radiation doses from radon emissions from surface impoundments of byproduct materials shall **[must]** be kept as low as is reasonably achievable.

(B) (No change.)

(C) To control dusting from byproduct material, that portion not covered by standing liquids shall be wetted or chemically stabilized to prevent or minimize blowing and dusting to the maximum extent reasonably achievable. This requirement may be relaxed if byproduct material are effectively sheltered from wind, as in the case of below-grade disposal. Consideration shall be given in planning byproduct material disposal programs to methods for phased covering and reclamation of byproduct material impoundments. To control dusting from diffuse sources, applicants/licensees shall develop written operating procedures specifying the methods of control that **[which]** will be utilized.

(D) (No change.)

(E) Byproduct materials shall **[must]** be managed so as to conform to the applicable provisions of 40 CFR 440, as codified on January 1, 1983.

(31) (No change.)

(32) The agency may find that the proposed alternatives meet the agency's requirements if the alternatives will achieve a level of stabilization and containment of the sites concerned and a level of protection for the public health and safety and the environment from radiological and nonradiological hazards associated with the sites, which is equivalent to, to the extent practicable, or more stringent than the level that **[which]** would be achieved by the requirements of subsections (o)-(r) of this section and the standards promulgated by the EPA **[Environmental Protection Agency]** in 40 CFR Part 192, Subparts D and E.

(33) (No change.)

(34) Any proposed alternatives to the specific requirements in subsections (o)-(r) of this section shall **[must]** meet the requirements of 10 CFR 150.31(d).

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(35) (No change.)

(r) Land ownership of byproduct material disposal sites.

(1) (No change.)

(2) Unless exempted by the NRC, title to land (including any affected interests therein) that [which] is used for the disposal of byproduct material or that [which] is essential to ensure the long-term stability of the disposal site and title to the byproduct material shall be transferred to the State of Texas or the United States prior to the termination of the license. Material and land transferred shall be transferred without cost to the State of Texas or the United States. In cases where no ongoing site surveillance will be required, surface land ownership transfer requirements may be waived. For licenses issued before November 8, 1981, the NRC may take into account the status of the ownership of the [such] land and interests therein, and the ability of a licensee to transfer title and custody thereof to the State.

(3) Any uranium recovery facility license shall [must] contain [such] terms and conditions as the agency determines necessary to assure that, prior to termination of the license, the licensee will comply with ownership requirements of this subsection for sites used for tailings disposal.

(4) (No change.)

(5) If the NRC, subsequent to title transfer, determines that use of the surface or subsurface estates, or both, of the land transferred to the state or federal government will not endanger the public health and safety or the environment, the NRC may permit the use of the surface or subsurface estates, or both, of such land in a manner consistent with the provisions of this section. If the NRC permits the [such] use of such land, it will provide the person who transferred the [such] land with the first refusal with respect to the [such] use of such land.

(s) (No change.)