

The Texas Natural Resource Conservation Commission (TNRCC or commission) proposes amendments to §336.1, Scope and General Provisions; §336.2, Definitions; §336.5, Exemptions; §336.103, Schedule of Fees for Subchapter H Licenses; §336.105, Schedule of Fees for Subchapter F Licenses; §336.107, Annual License Fee Due Date and Period Covered; §336.301, Purpose and Scope; §336.308, Determination of Internal Exposure; §336.313, Dose Limits for Individual Members of the Public; §336.341, General Requirements for Recordkeeping; §336.352, Reports of Exposures, Radiation Levels, and Concentrations of Radioactive Material Exceeding the Limits; §336.355, Reports of Individual Monitoring; §336.405, Notifications and Reports to Individuals; §336.513, Technical Requirements for Active Disposal Sites; §336.601, Definitions; §336.607, Criteria for License Termination under Restricted Conditions; §336.613, Additional Requirements; §336.701, Scope and General Provisions; §336.702, Definitions; §336.705, Content of Application; and §336.718, Application for Renewal or Closure.

The TNRCC also proposes new §336.201, Purpose and Scope; §336.203, License Required; §336.205, Application Requirements; §336.207, General Requirements for Issuance of a License; §336.209, Issuance of License; §336.211, General Requirements for Radioactive Material Disposal; §336.213, Method of Obtaining Approval of Proposed Disposal Procedures; §336.215, Disposal by Release into Sanitary Sewerage; §336.217, Disposal by Burial in Soil; §336.219, Disposal by Release into Septic Tanks; §336.221, Treatment or Disposal by Incineration; §336.223, Disposal in Underground Injection Control (UIC) Class I injection wells; §336.225, Disposal of Specific Wastes; §336.229, Prohibition of Dilution; §336.331, Transfer of Radioactive Material; §336.332, Preparation of Radioactive Material for Transport; §336.335, Reporting Requirements for Incidents; §336.336, Tests; §336.338, General

Recordkeeping Requirements for Disposal; §336.339, Form of Records; Applicability; and §336.501, Scope and General Provisions; §336.602, Definitions; §336.615, Inactive Disposal Sites; §336.617, Technical Requirements for Inactive Disposal Sites; §336.619, Financial Assurance for Decommissioning; §336.621, Recordkeeping for Decommissioning; §336.623, Financial Assurance for Control and Maintenance; §336.625, Expiration and Termination of Licenses; and §336.627, Appendix A. Radionuclide Quantities for Use in Determining Financial Assurance for Decommissioning.

The TNRCC also proposes the repeal of §336.201, Purpose and Scope; §336.203, Environmental Analysis; §336.205, Transfer of Radioactive Material for Transport; §336.207, Preparation of radioactive Material for Transport; §336.209, Records and Reports; §336.210, Complaints; §336.211, Reporting Requirements for Incidents; §336.213, Tests; §336.215, Inspections; §336.219, Notice of Bankruptcy; §336.331, General Requirements for Waste Disposal; §336.332, Method of Obtaining Approval of Proposed Disposal Procedures; §336.333, Disposal by Release into Sanitary Sewerage; §336.334, Disposal by Burial in Soil; §336.335, Disposal by Release into Septic Tanks; §336.336, Treatment or Disposal by Incineration; §336.337, Disposal of Specific Wastes; §336.338, Transfer for Disposal at Licensed Land Disposal Facility and Manifests; §336.339, Texas Department of Health Inspection and Regulation of Shipments of Radioactive Waste; §336.340, Compliance with Environmental and health Protection Regulations; §336.348, Records of Waste Disposal; §336.349, Form of Records; §336.351, Notification of Incidents; §336.361, Appendix D. Requirements for Receipt of Low-Level Radioactive Waste for Disposal at Licensed Land Disposal Facilities and Manifests; §336.501, Scope and General Provisions; §336.502, Definitions; §336.503, Filing of Application; §336.504, General Requirements for Issuance of a License; §336.505, Issuance of

License; §336.512, Technical Requirements for Inactive Disposal Sites; §336.514, Financial Assurance for Decommissioning; §336.515, Recordkeeping for Decommissioning; §336.517, Financial Assurance for Control and Maintenance; §336.519, Expiration and Termination of Licenses; §336.521, Appendix A. Radionuclide Quantities for Use in Determining Financial Assurance for Decommissioning; and, §336.742, Inspections of Land Disposal Facilities.

#### BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE PROPOSED RULES

This rule package has three major goals: (1) implement House Bill (HB) 1172, 76th Legislature, 1999, and its amendments to the Texas Health and Safety Code (THSC); (2) implement the recommendations of the TNRCC's Business Process Review Permit Implementation Team (BPR-PIT) to provide for consistency between the administrative procedures of the radiation control program and the other permitting programs of the agency; and (3) improve readability and understanding by reorganizing Chapter 336, putting its requirements into plain English, and eliminating its redundancies and conflicts.

Changes to implement HB 1172 are: (1) amending the definition of low-level radioactive waste to be compatible with the United States Nuclear Regulatory Commission's (NRC's) definition; (2) incorporating the TNRCC's new authority to exempt from application of a rule; (3) adding an exemption to continue or expand on-site low-level radioactive waste disposal begun before September 9, 1989; and (4) adding exemptions from radioactive material licensing requirements for facilities participating in the Voluntary Cleanup Program or Superfund cleanups.

The BPR-PIT changes are part of an agency-wide effort to make programs consistent where feasible.

The agency's management has mandated the consistency effort to make agency processes more efficient and "user friendly." Most of the license application process requirements in Chapter 336 can be modified to be more consistent with the permit application requirements of the rest of the agency. The TNRCC expects a consistent application process to be especially helpful for persons who have multiple permits/licenses from the TNRCC or are seeking consolidated permits. Major proposed changes are: (1) that the radiation control program will begin using the agency's definitions for major and minor amendments; and (2) the radiation control program application process will be moved from Chapter 336 to Chapter 281 (relating to Applications Processing) and Chapter 305 (relating to Consolidated Permits) with technical requirements remaining in Chapter 336 and amended to be consistent with agency administrative procedures.

Lastly, the TNRCC proposes that Chapter 336 be made more understandable by partially reorganizing the chapter. Existing Subchapter C is proposed to be repealed, with those sections being moved to more appropriate locations, or eliminated if redundant with other rules. The agency also proposes to correct discrepancies within the chapter. For example, Subchapter C reporting requirements are proposed to be moved to and merged with Subchapter D reporting requirements. Additionally, the application process is proposed to be moved to and merged with the agency's application process requirements in Chapter 305 and Chapter 281. The disposal requirements in Subchapter D are proposed to be moved to form a new Subchapter C, which will be titled "General Disposal Requirements." All of the decommissioning requirements are proposed to be moved to Subchapter G,

including inactive disposal site clean-up requirements. The commission also proposes to make distinctions between exemptions and requirements outside TNRCC's jurisdiction (§336.1 and §336.5).

In addition to the reorganization, wording in some areas has been clarified. These changes are as follows: (1) putting requirements into plain English, thereby resolving problems where the intent of the rule may have been unclear; (2) eliminating or simplifying unnecessary or repetitive language; (3) breaking long, complicated sections into shorter subsections; and (4) shortening sentences for readability.

In this package, the commission is not proposing to: (1) make any substantive changes unless a provision clearly conflicted with statutory requirements (e.g., recordkeeping requirements in THSC, §401.057 and §401.058) or a change was needed to implement either HB 1172 or the BPR-PIT recommendations; (2) address whether rule requirements are Texas Department of Health (TDH) or TNRCC jurisdiction; (3) address new NRC compatibility issues, beyond the definition of low-level radioactive waste; or (4) make any changes affecting the regulation of naturally occurring radioactive material (NORM) waste disposal.

The proposal has been reviewed by both the NRC and the Texas Radiation Advisory Board (TRAB). Comments received from TRAB have been incorporated as appropriate.

As a point of clarification regarding the use of the terms "radioactive substance" and "radioactive material," the agency chooses to use the term "radioactive material" over that of "radioactive

substance” wherever possible. The term “radioactive substance” was created to refer collectively to radioactive materials that were under the TNRCC’s disposal jurisdiction, excluding materials not within the TNRCC’s jurisdiction. The definition under THSC, §401.003(19), which excludes oil and gas NORM, was not changed by the legislature to exclude byproduct material when jurisdiction over disposal of byproduct material was transferred to the TDH. In defining the TNRCC’s jurisdiction under THSC, §401.412(a), byproduct material as defined by THSC, §401.003(3)(B) is specifically excluded. Therefore, use of the terms “radioactive material” and “radioactive substance” in this proposal does not include disposal of byproduct material under TDH’s disposal jurisdiction, or oil and gas NORM waste under Railroad Commission of Texas jurisdiction. In TNRCC practice, the term “radioactive substance” has been used interchangeably with “radioactive material.” Within the bounds of the TNRCC’s jurisdiction, the agency interprets “radioactive substance” and “radioactive material” to have the same meaning.

## SECTION BY SECTION DISCUSSION

### Subchapter A - General Provisions

Section 336.1 is proposed to be amended. The reference to the United States Nuclear Regulatory Commission has been abbreviated as “NRC” throughout the section. Section 336.1(a) is proposed to be amended to simplify the reference to Chapter 336 and to break part of it out into paragraphs (1) and (5) so that new paragraphs (2)-(4) can be added to clarify the meaning of the rule. Section 336.1(a)(2) language moved, unchanged from §336.5(c), to spell out exemptions to the agency’s rules and jurisdiction early in the subchapter, except the catchline, “United States Department of Energy contractors and United States Nuclear Regulatory Commission contractors” has been deleted. Section

336.1(a)(3) clarifies that radioactive material transferred outside of the possession of the federal government is subject to state jurisdiction. Section 336.1(a)(4) clarifies that transportation issues are outside the TNRCC's jurisdiction, but this does not mean a transporter is exempt from the applicable requirements of other government agencies. Section 336.1(a)(5) is moved, unchanged, from the last sentence in existing §336.1(a). Section 336.1(b) is proposed to be amended to refer interested parties to the agency for a copy of the Articles of Agreement, rather than to a specific internal organization that might change in a future agency reorganization. Section 336.1(d) is proposed to be amended to clarify that persons licensed under the "chapter," rather than the "subchapter," are required to confine "disposal," as well as "possession and use," of licensed radioactive material to the locations and purposes authorized under the license. Section 336.1(f) merges, clarifies, and restates in plain English, existing prohibitions regarding radioactive material waste disposal, derived from existing §336.334 and from existing §336.501(a) and (b), regarding the requirement for a license to dispose of low-level radioactive material or waste on-site; from existing §336.332(e), regarding receiving low-level radioactive waste from other persons; and from existing §336.501(a) and §336.332(a) regarding NORM waste disposal. Section 336.1(g) clarifies that accelerator-produced radioactive material, though not a low-level radioactive waste by definition, is regulated in the same manner as low-level radioactive waste. This provision maintains the status quo regarding the regulation of accelerator-produced radioactive material, yet does not conflict with the new definition of low-level radioactive waste mandated by HB 1172 or with the definition of low-level radioactive waste of the NRC.

Section 336.2 is proposed to be amended. The definition of "Byproduct material" is proposed to be amended to insert "or" in place of "and" to maintain compatibility with the federal definition and

Senate Bill (SB) 1857, 74th Legislature, 1997. The definition of “Disposal” is a new definition to implement HB 1172's amendments to THSC, §401.003(8). Definitions are subsequently renumbered throughout this section to account for definition additions and deletions. The definition of “Generally applicable environmental radiation standards” is proposed to be amended to abbreviate United States Environmental Protection Agency as EPA. The definition of “Land disposal facility” is proposed to be amended to conform with HB 1172. The definition of “Low-level radioactive waste” is proposed to be amended to conform with HB 1172's new THSC, §401.004 and the definition of “Waste” in Title 10 Code of Federal Regulations (CFR) §61.2. However, at the request of TRAB, the proposed rule adds “transuranic waste” to §336.2(57)(B)(iii) to exclude transuranic waste from the definition of low-level radioactive waste. The TRAB members stated that they felt this would help eliminate any confusion between low-level radioactive waste and high-level radioactive waste. The definition of “Major amendment” is proposed to be deleted to provide consistency between the permitting programs in the agency, as recommended by the agency's BPR-PIT, and as discussed in proposed changes to §305.62(c) in a concurrent amendment. Subparagraph (c) is derived from HB 1172. The radiation program will use the agency's definitions of major amendment in §305.62(c)(1). The definition of “Minor amendment” is also proposed to be deleted to provide consistency in agency applications processing, as recommended by the agency's BPR-PIT, and is discussed in the preamble to §305.62(c)(2). The radiation control program will use the agency's definition of minor amendment in §305.62(c)(2). The rule proposes to move the definition of “On-site” without change from §336.502(3) because it applies to more than one subchapter. The definition of “Radioactive substance” is proposed to be amended to conform with THSC, §401.003(19). The existing definition of “Radioactive waste” is proposed to be deleted because it is replaced with the new HB 1172 definition of “Low-level radioactive waste.” For

the purpose of this chapter, a new definition of “Transuranic waste,” based upon the waste classification system in 10 CFR §61.55 and §336.362, is proposed to be added to provide a definition for this term that was previously added to the definition of “Low-level radioactive waste.”

Section 336.5 is proposed to be amended. Section 336.5(a) is proposed to be amended to delete the subtitle “General provision” and to make its language conform with HB 1172 amendments to THSC, §401.106(b) and (c). Section §336.5(a)(1)-(4) are new provisions providing more detail on the processing of requests for exemption from rule and on the information required to be submitted with the request.

A commission order authorizing or denying a request for an exemption from a rule would be the authorization or denial for that activity. In some cases, the commission order may also specify the requirement to obtain or maintain a license. It should be noted that HB 1172 did not authorize the TNRCC to exempt persons from statutory requirements. Therefore, requests for exemption from the requirement to get a license will not be entertained. Because the process of 30 TAC Chapter 90 will be used, the public participation requirements contained in Chapter 90 will be followed.

New §336.5(b) is proposed to conform with HB 1172's new THSC, §401.104(e) to exempt from licensing requirements, persons participating in the agency's Voluntary Cleanup Program or Superfund cleanups. Former §336.5(b) is proposed to be deleted because transportation is not within the agency's jurisdiction, and therefore is not an exemption. The deleted language has been simplified and moved to §336.1(a)(4). New §336.5(c) clearly delineates that radioactive materials exempted from licensing

requirements by TDH under THSC, §401.106(a) are not subject to regulation as radioactive materials by the TNRCC. Former §336.5(c) is proposed to be deleted and moved to §336.1(a)(2) because it pertains to activities outside of the agency's jurisdiction rather than an exemption from rule.

#### Subchapter B - Radioactive Substance Fees

Section 336.103 is proposed to be amended to add "low-level" to "radioactive waste" wherever it appears in subsections (a)-(c) to conform with HB 1172.

Section 336.105 is proposed to be amended to be consistent with the non-substantive organizational changes made throughout Subchapters F and G to improve readability. Existing fee amounts remain unchanged in this proposal. The section title is proposed to be amended to "Schedule of Fees for Other Licenses." Section 336.105(a) is proposed to be amended to delete the catchline "Application fee" and add "or Subchapter G of this title (relating to Decommissioning Standards);" §336.105(a)(1) is proposed to be amended to delete "facility at which active disposal operations have ceased" and replace that language with "facilities regulated under Subchapter G"; and §336.5(a)(2) is proposed to be amended to delete "proposed facility with active disposal operations" and replace that language with "facilities regulated under Subchapter F of this chapter." Section 336.105(b) is proposed to be amended to delete the catchline "Annual license fees," and add "and Subchapter G"; §336.105(b)(1) is proposed to be amended to delete "licensed facility at which active disposal operations have ceased" and replace that language with "facilities regulated under Subchapter G of this chapter"; and §336.105(b)(2) is proposed to be amended to delete "licensed facility with active disposal operations" and replace that language with "facilities regulated under Subchapter F of this chapter." Section

336.105(c) is proposed to be amended to delete the catchline “fees for certain amendment requests,” add “a major” in front of “amendment,” add “or Subchapter G,” and delete “if the amendment involves expansion of previously authorized disposal facilities or addition of disposal facilities” to make the fee applicable to all major amendments under Subchapter F or G. Section 336.105(d) is proposed to clarify what fees apply when a facility ceases disposal activities and has received approval of the final decommissioning plan since a decommissioning plan is approved as a license amendment and the decommissioning will be carried out under the (now newly amended) license.

Section 336.107(a) is proposed to be amended to correct a cross-reference by reflecting the newly proposed section title for §336.105.

#### Subchapter C - Additional Application, Operation, and License Requirements

This subchapter is proposed to be repealed entirely and its requirements moved to new, more appropriate locations or completely repealed if those requirements are addressed elsewhere in the agency rules. The first sentence in §336.201(a) is proposed to be moved to proposed §336.205. The requirement that application information be complete and accurate, as stated in existing §336.201(a), is to be repealed because it is redundant with language in §305.44(b). Section 336.201(b)-(d) language is proposed to be moved to §305.54 with minor modifications such as adding the words “low-level” and taking out obsolete dates. Existing §336.203 language is proposed to be moved to §281.21(f) with minor modifications. Existing §336.205 and §336.338 are proposed to be moved to §336.331 with minor modifications. Section 336.207 language is proposed to be moved in part to §336.332. Section 336.209 language is concurrently proposed to be moved to and merged with §336.341 with the

exceptions of §336.209(d), which is moved to §336.339, and §336.209(f) to clarify that these recordkeeping requirements are applicable to all licensees. Section 336.210 is repealed because THSC, §401.392, which is the basis for it, was repealed in 1997. Section 336.211 language is concurrently proposed to be moved to §336.335 with additional language from §336.351. Section 336.213 language is concurrently proposed to be moved to §336.336 with modifications. Section 336.215 is repealed, along with §336.742, because both provisions are redundant with §305.125(10). Section 336.219 language is concurrently proposed to be moved to §305.125(22) and amended to apply to all programs as discussed in the concurrent Chapter 305 proposal.

#### New Subchapter C - General Disposal Requirements

This new subchapter is proposed to provide a central location for all of the general radioactive material disposal requirements and to clarify existing radioactive material disposal requirements. This new subchapter is based on existing disposal requirements in THSC, Chapter 401 and 30 TAC Chapter 336.

New §336.201 states that the new subchapter pertains to the disposal of all radioactive materials, except byproduct material and oil and gas NORM waste.

Section 336.203 sets forth the statutory requirement that all radioactive material disposal must be authorized by either a TNRCC license (THSC, §401.101) or an exemption by the TDH (THSC, §401.106(a)).

New §336.205(a) states that applications are to be submitted under the requirements of Chapter 305 (which also refers to the applicable subchapters under Chapter 336). Section 336.203(b) states that applications are to be accompanied by the appropriate fee from Subchapter B.

Section 336.207 consolidates requirements from existing §336.504(1)-(4), and applies to all radioactive material licensing actions. Existing §336.504(5) is proposed to be deleted because it is redundant with §305.127(4)(c) requirements.

Section 336.209 language is proposed to be moved from existing §336.505 and amended to include compliance with the agency rules relating to radioactive material licensing, as a precondition for license issuance. This proposed change is part of the agency effort to make the radioactive material licensing process consistent with the administrative procedures of other permitting programs of the agency.

Section 336.211 clarifies general requirements for radioactive material disposal. Section 336.211(a) is language moved essentially unchanged from deleted §336.331(a), except to correct cross-references and to modify paragraph (3). Section 336.211(3) is modified to clarify that once a radioactive material has decayed in storage, it shall be subject to other applicable laws, such as the Solid Waste Disposal Act and shall be disposed of as authorized by applicable laws. Proposed new subsection (b), relating to receipt of licensed materials from other persons, is based on 10 CFR §20.2001(b), and addresses a federal Level C compatibility category requirement. For NRC regulations that are assigned a Level C compatibility category, Agreement States are required to adopt the essential objectives of the NRC's program elements in rule but do not have to have a rule requirement identical to the federal regulation.

Subsection (c) is language moved from existing §336.331(b) and clarified to reflect the TDH's jurisdiction. Subsection (d) is a proposed clarification of regulatory jurisdiction over the disposal of radioactive materials. Subsection (e) is necessary to conform with HB 1172's new THSC, §401.106(c), which states that on-site disposal of low-level radioactive waste is prohibited in Texas, except that the commission may authorize the continued on-site disposal of low-level radioactive waste at facilities which began low-level radioactive waste disposal operations before September 1, 1989 and to clarify that persons eligible for the on-site disposal authorization are to be licensed under Subchapter F. Subsection (f) is a proposed clarification from §336.701(a).

Section 336.213 is a proposed clarification and major rewrite of existing §336.332, which was based upon 10 CFR §20.2002. The section refers persons applying for a license to Chapter 305 for requirements regarding the application process. Within Chapter 336, there will be three subchapters under which a license may be issued. Decommissioning licenses may be issued under Subchapter G, low-level radioactive waste disposal licenses may be issued under Subchapter H, and other on-site radioactive material disposal licenses for activities not licensed under Subchapters G or H will be issued under Subchapter F. Section 336.213(a), which is language was moved from existing §336.332(c), has been rewritten to clarify that these license applications will be submitted and processed under Chapter 305. Section 336.213(b) language was moved from existing §336.332(b), and has been rewritten to clarify that changes to radioactive material license conditions are to be submitted and processed according to the amendment process in Chapter 305, Subchapter D. Section 336.213(c) language is moved from existing §336.332(a) and (d) and has been rewritten to clarify the purpose of Subchapter F (relating to Licensing of Alternative Methods of Disposal of Radioactive Materials). Under current

rules, §336.332(a) addresses activities not clearly regulated elsewhere in the rules. Sections 336.501 and 336.213(c) now serve this function. Subchapter F is intended to be used in instances where an applicant applies for authorization for on-site disposal not covered by any other Chapter 336 subchapter. Subchapter F is not intended to be used to authorize activities regulated under Subchapter G or H or to authorize commercial disposal of radioactive material.

Section 336.215 contains language moved unchanged from existing §336.333 except for minor style and format changes.

Section 336.217 addresses the same requirements as existing §336.334, and has been amended as necessary to correct cross-references, reflect the reorganization of Chapter 336, and to implement the new requirements of HB 1172, relating to exemptions.

Section 336.219 contains those provisions moved from existing §336.335 as amended to correct the cross-reference from existing §336.332 to Subchapter F because of reorganization under proposed §336.213.

Section 336.221 contains language proposed to be deleted from §336.336, with modifications for readability and correction of cross-references.

Section 336.223 is a clarification of the relationship between the radiation control and underground injection control (UIC) programs, based upon the following existing rules and statutes. Title 40 CFR

§144.11 prohibits any underground injection unless authorized under the UIC program. Section 331.7(a) of this title requires that all injection wells and activities be authorized by permit. Proposed §336.203, based on THSC, §401.101 and §401.104(b), requires that all disposal of radioactive material be licensed by the TNRCC or exempted by the TDH. Thus, proposed §336.223 requires disposal of “radioactive material by injection” to be authorized under both the UIC and radiation control rules.

Section 336.225 is language proposed to be moved from repealed §336.337. It has been modified to correct cross-references, correct a typographical error in existing §336.337(c) by changing an incorrect reference from subsection (d) to (b), delete general license requirements over which the TNRCC has no jurisdiction, and change “may” to “shall” to make clear that the requirements are mandatory. It also changes “executive director” to “agency” for consistency with rules in other programs.

Section 336.229 is clarification of existing TNRCC policy. Once a waste is classified as a radioactive material, whether low-level radioactive waste, NORM waste, or byproduct material, it maintains that classification for the purposes of determining the appropriate means of disposal under Chapter 336.

#### Subchapter D - Standards for Protection Against Radiation

Changes to Subchapter D are primarily organizational in nature. The disposal requirements in this subchapter are proposed to be moved to the new Subchapter C - General Disposal Requirements.

Transfer, transportation, and reporting and testing requirements from Subchapter C are proposed to be moved to Subchapter D to be merged with similar requirements, or eliminated if redundant.

Section 336.301 is proposed to be amended. Section 336.301(a) is proposed to be amended to add “and establishes minimum standards for all persons who dispose of radioactive materials” to clarify that some provisions within the subchapter apply to all persons and not just licensees. New §336.301(d) contains language moved unchanged from existing §336.340, which stated that compliance with the rules in Chapter 336 does not preclude a licensee from having to comply with other rules.

Section 336.308 is proposed to be amended to correct a cross-reference in §336.308(d) to reflect the new proposed section for incident reporting requirements and to change the numeral “7” to “seven.”

Section 336.313 is proposed to be amended. Section 336.313(a)(1) is amended to correct a cross-reference to reflect the new proposed section for disposal into sanitary sewage requirements. Section 336.313 also includes usage changes such as changing the numeral “1” to “one,” and using “EPA” rather than spelling out “Environmental Protection Agency.”

Section 336.331 is proposed to be repealed as discussed in relation to §336.211. The proposed new §336.331 contains language moved from existing §336.205 with grammatical changes. The language moved from §305.205(b)(4) was edited to remove redundant language by deleting “to any person otherwise authorized to receive this material by the federal government to any agency thereof, the commission, the TDH, or any Agreement State; or.” In §336.331(b)(1), the words “executive director” have been changed to “agency” to reflect the authority of the agency to receive transferred radioactive material. Also, “may” has been changed to “shall” to make it clear that such transfers should occur only after agency approval.

The remaining §336.331(g) and (h) consist of language moved from existing §336.338, as amended to remove obsolete manifest requirements in existing §336.338(b)(2).

Existing §336.332 is proposed to be repealed as discussed in relation to §336.213. The proposed new §336.332 is moved from existing §336.207 with grammatical changes.

Section 336.333 is proposed to be repealed and its language moved to §336.215 with grammatical changes.

Section 336.334 is proposed to be repealed and its language moved to §336.217, as discussed in relation to §336.217.

Existing §336.335 is proposed to be repealed. The proposed new §336.335 moves incident reporting requirements from existing §336.211 and §336.351, merges the incident reporting requirements for ease in use, and amends the existing language as needed to clarify the requirements and to conform with the federal requirements in 10 CFR §30.50, §40.60, Part 40 Appendix A, Part 60, and 10 CFR §20.2202. The proposed new §336.335 clarifies that notifications in any form should be submitted to the executive director which by definition includes staff. As such, the redundant reference to “or staff” is deleted in §336.335(a), (b), and (c)(1) and (2). Proposed language for new §336.336 is moved unchanged from existing §336.213 except for a rewording of a citation.

Existing §336.336 is proposed to be repealed as per discussion in relation to §336.221. Proposed language for new §336.336 is moved substantially unchanged from existing §336.213.

Section 336.337 is proposed to be repealed as discussed in relation to proposed §336.225.

Section 336.338 is proposed to be repealed as discussed in relation to proposed new §336.331. New proposed §336.338 contains language moved from existing §336.348 and amended to conform to THSC, §401.057 by eliminating a time limit for record retention, by substituting the term “person” for “licensee,” and adding language from §401.057(c) and (d).

Existing Section 336.339 is proposed to be repealed, as the current language is proposed to be moved with modifications to proposed new §336.701(e) because existing §336.339 applies to low-level radioactive waste. Proposed new §336.339 contains language from existing §336.349 and §336.209(d).

Section 336.340 is proposed to be repealed as discussed in relation to proposed §336.301.

Section 336.341 is proposed to be amended. The title is proposed to be amended to “General Recordkeeping Requirements for Licensees” to centrally locate general recordkeeping requirements for licensees (as opposed to general recordkeeping requirements for all disposal of sources of radiation in new §336.338). Section 336.341(b) is proposed to be amended to correct the cross-reference to §336.338. The language in proposed new §336.341(d)-(g) has been moved from repealed §336.209(a)-(c) and (e), respectively.

Section 336.348 is proposed to be repealed as discussed in relation to proposed §336.338.

Section 336.349 is proposed to be repealed as discussed in relation to proposed §336.339.

Section 336.351 is proposed to be repealed as discussed in relation to proposed §336.335.

Section 336.352 is proposed to have its subsection (a) and (a)(1) amended to correct cross-references from §336.351 to §336.335 to reflect the proposed amendments to improve the organization of this chapter.

Section 336.355 is proposed to have subsection (a) amended to add “low-level” in front of “radioactive waste” to conform with HB 1172.

Section 336.361 is proposed to be repealed to delete an obsolete manifesting provision which applies only to low-level radioactive waste received from other persons for disposal at a licensed land disposal facility before March 1, 1998. Because there were no land disposal facilities licensed to receive waste from others in Texas before March 1, 1998, the requirement is obsolete and is proposed to be deleted.

#### Subchapter E: Notices, Instructions, and Reports to Workers and Inspections

Section 336.405(d) is proposed to be amended to correct a cross-reference to reflect the proposed reorganization.

#### Subchapter F: Licensing of Alternative Methods of Disposal of Radioactive Material

The rules propose a new regulatory scheme that requires decommissioning of a site be considered a separate and distinct action from the act of obtaining a license to dispose of radioactive material.

When Subchapter F was originally adopted, owners of facilities with radioactive material contaminated soils and buildings and/or old radioactive material landfills were considered to be in “possession” of radioactive material. After NRC promulgated its “Timeliness in Decommissioning Rules (59 Fed Reg 36026), published July 15, 1994, effective August 15, 1994,” and “Radiological Criteria for License Termination, (62 Fed Reg 39058) published July 21, 1995, effective August 20, 1997,” it was no longer appropriate to license contaminated areas as possessing radioactive material for extended periods of time. A new concept of timely decommissioning, followed by release for unrestricted or restricted use, needs to be implemented in conformance with the new NRC requirements.

The following subsections related to decommissioning requirements in Subchapter F are proposed to be repealed and moved to Subchapter G: §§336.502-336.505, 336.512, 336.514, 336.515, 336.517, 336.519, and 336.521. These decommissioning provisions will be moved substantially unchanged to Subchapter G to consolidate all decommissioning requirements in one subchapter. This separates by chapter the decommissioning of inactive sites from the disposal of radioactive material at active sites. The remaining requirements in Subchapter F are proposed to be modified to more closely reflect the NRC’s methods of licensing (10 CFR §20.2002).

In addition to moving decommissioning requirements from Subchapter F, the remaining requirements have been clarified and put into plain English to aid understanding. No substantive changes have been made other than to comply with federal and state laws and regulations.

This federal provision provides a mechanism to consider for approval, on-site disposal activities that do not fit the licensing criteria in Subchapter H or G. As amended and subject to applicable limitations, Subchapter F will continue to allow the commission to consider requests for on-site disposal of radioactive materials which are not addressed by Subchapters G and H (e.g., diffuse NORM waste having concentrations of radium-226 or radium-228 of less than 2,000 pCi/g).

The receipt and disposal of radioactive materials from off-site (commercial disposal) is not intended to be authorized by Subchapter F. This represents no change from current agency practice.

Subchapter F also allows the commission to consider requests for on-site disposal of low-level radioactive waste on a specific basis at any facility at which low-level radioactive waste disposal operations began before September 1, 1989, in conformance with HB 1172, 76th Legislature, 1999.

Section 336.501 is proposed to be repealed and replaced with new provisions to reflect organizational changes discussed previously where requirements for active disposal of radioactive material and for the decommissioning of inactive facilities are proposed to be separated between Subchapters F and G.

Section 336.501(a) states that Subchapter F applies only to on-site disposal of radioactive material generated in the person's activities, and thus, may not be used to authorize commercial disposal of

radioactive material or disposal of radioactive material received from other persons. Language from existing §336.501(a) is proposed to be added in part to §336.601(a), to move the decommissioning requirements for inactive disposal sites to Subchapter G; and to §336.615. Section 336.501(b) conforms with HB 1172's new definition of low-level radioactive waste and new THSC, §401.106(c). The language in current §336.501(c) is proposed to be moved unchanged to §336.615. The language in current §336.501(d) is proposed to be deleted to eliminate duplicative language. NRC requires all contaminated facilities, including those previously authorized or closed, to meet the new decommissioning standards for unrestricted or restricted release. Before NRC promulgated its timeliness-in-decommissioning regulations and new decommissioning standards, facilities which had contamination or waste disposed of on their property were licensed for possession of the radioactive material. The NRC's timeliness-in-decommissioning regulations changed that by requiring facilities to be decommissioned within a specific time frame upon cessation of activities. The preamble for the NRC's decommissioning standard also stated that the new standard was to be applied retroactively to all sites that exceeded the standard for release for unrestricted use. Therefore, sites previously authorized by the TNRCC or TDH are subject to current decommissioning standards. Section 336.501(e) is proposed to be relettered to become §336.501(c) and amended to remove "or waste" because the definition of "Radioactive material" includes "Low-level radioactive waste."

Existing §336.502 is proposed to be repealed because §336.502(1) and (2) pertain to decommissioning standards and §336.502(3) applies to all of Chapter 336 and not just Subchapter F. Section 336.502(1) and (2) are moved to proposed §336.602, and §336.502(3) is moved to proposed §336.2.

Existing §336.503 is proposed to be repealed, and its language moved with changes to proposed §336.205 as part of the reorganization of the chapter. These changes require that applicants use the application process in Chapters 281 and 305.

Section 336.504 is proposed to be repealed, and its language moved to proposed §336.207, as part of the reorganization of the chapter. These changes require that applicants use the application process in Chapters 281 and 305.

Section 336.505 is proposed to be repealed, and its language moved to proposed §336.209, as part of the reorganization of the chapter. These changes require that applicants use the application process in Chapters 281 and 305.

Section 336.512 is proposed to be repealed, and its language moved with minor modifications (e.g., eliminate redundant requirements, renumber accordingly, correct cross-references, and adjust one catchline) to proposed §336.617.

Section 336.513 is proposed to be amended. Section 336.513(a) is proposed to be amended to add information required by Chapter 305 and to refer applicants to Chapter 305 for the information required to be submitted for a license to authorize radioactive material disposal. Section 336.513(a)(1) is proposed to be deleted because it is redundant with §305.45. Subsequent paragraphs are renumbered to account for paragraph deletions. Existing §336.513(a)(6) is proposed to be deleted because it is

redundant with §305.45(a)(6). Section 336.513(a)(19) is proposed to be amended to correct a cross-reference. Section 336.513(b)(1)(H) is proposed to be amended to correct a cross-reference.

Section 336.514 is proposed to be repealed with the language moved unchanged except to correct cross-references to proposed §336.619.

Existing §336.515 is proposed to be repealed as discussed in related §336.621.

Existing §336.517 is proposed to be repealed as discussed in related §336.623.

Existing §336.519 is proposed to be repealed as discussed in related §336.625.

Existing §336.521 is proposed to be repealed with language moved unchanged to proposed §336.627.

#### Subchapter G: Decommissioning Standards

Section 336.601 is proposed to be amended. Section 336.601(a) is proposed to be amended to add “the inactive disposal sites regulated under this subchapter” to confirm that the decommissioning of inactive sites previously addressed in Subchapter F is now addressed in this subchapter and to add “low-level” in front of “radioactive waste” in two locations to conform with HB 1172. Section 336.601(b) is proposed to be amended to add, “This subchapter also establishes the criteria under which a facility may be licensed for decommissioning” in place of deleted “Licensees who have submitted a decommissioning plan to the commission and have received commission approval of the plan before the

effective date of these criteria may decommission according to the regulations in place at the time of filing of the plan or according to these criteria” to indicate that this subchapter establishes the criteria under which a facility may be “licensed” to be decommissioned.

Section 336.602 is proposed to be added to this subchapter. The definitions of “Control and maintenance” and “Institutional control” are taken from NRC’s draft regulatory guidance DG-4006 “Demonstrating Compliance With the Radiological Criteria for License Termination,” dated August 1998, and are terms which are also used in Subchapter G and the programs’ financial assurance requirements. The definition of “Inactive disposal site” is proposed to be moved from repealed §336.502 with modifications to eliminate redundancies. The definition of “Funding plan” is also proposed to be moved from repealed §336.502 because it applies to decommissioning provisions.

Section 336.607(3) is proposed to be amended to reflect the proposed new titles for Chapter 37, Subchapter S and Subchapter T.

Section 336.613 is proposed to be amended. Section 336.613(a) is proposed to be amended to add “do not apply to licenses issued under Subchapter H of this chapter (relating to Licensing Requirements for Near-surface Land Disposal of Low-Level Radioactive Waste)” in place of deleted “(apply only to licenses issued under Subchapter F of this chapter (relating to Licensing of Alternative Methods of Disposal of Radioactive Material)” to clarify that the section requirements apply to all licenses, except for those issued under Subchapter H. Section 336.613(b) is proposed to be amended to correct two

cross-references due to the proposed reorganization of this chapter. Section 336.613(c) is proposed to be amended to correct a cross-reference due to the proposed reorganization of this chapter.

Section 336.615 is a new section proposed with its language moved unchanged from the deleted last sentence of §336.501(a) and from §336.501(c).

Section 336.617 is a new section proposed with its language moved from §336.512 unchanged, except to eliminate redundant requirements and to make minor formatting changes (e.g., deletions of catchlines and changing reference from Subchapter G to “of this chapter”). The proposed new language deletes §336.512(a)(1) and instead requires the applicant to submit information as provided in Chapter 305. Section 336.617(a)(7), (b)(1), and (g) is proposed to be amended to correct cross-references due to proposed reorganization of this chapter.

Section 336.619 is a new section proposed with its language moved from §336.514 unchanged, except for cross-references.

Section 336.621 is a new section proposed with its language moved from §336.515 unchanged, except for cross-references and to amend §336.621(3)(D) to be consistent with NRC’s decommissioning standards.

Section 336.623 is a new section proposed with its language moved unchanged from §336.517 except for a cross-reference in §336.623(a).

Section 336.625 is a new section proposed with its language moved from §336.519 unchanged, except for cross-references, clarification of language, and to eliminate redundancies.

Section 336.627 is a new section proposed with its language moved unchanged from §336.521, except for a introductory sentence that this table is to be used for calculating financial assurance for decommissioning.

#### Subchapter H: Licensing Requirements for Near-Surface Land Disposal of Radioactive Waste

The proposed changes to this subchapter are primarily to reflect the new term “low-level radioactive waste” and to make other conforming changes required by HB 1172. Other changes include clarification of language, correction of citations, elimination of redundancies, and changes to maintain compatibility with the NRC rules.

The title of Subchapter H is proposed to be amended to add “Low-Level” in front of “Radioactive Waste” to incorporate the new HB 1172 term “low-level radioactive waste.”

Section 336.701 is proposed to be amended. Throughout §336.701, “low-level” is inserted in front of “radioactive waste” to conform to HB 1172. Section 336.701(a) is proposed to be amended to add “and accelerator-produced radioactive material” in three places. To indicate that accelerator-produced radioactive material continues to be regulated to the same standards as low-level radioactive waste, §336.701(a) is also proposed to be amended to add the following sentence: “For the purpose of this subchapter, the term ‘low-level radioactive waste’ includes accelerator-produced radioactive material.”

Section 336.701(b)(2) is proposed to be amended to correct a cross-reference and to delete “except as provided in subsection (c) of this section” which conforms to changes elsewhere in the proposal.

Section 336.701(b)(3) is proposed to be deleted because the existing definition of low-level radioactive waste does not include transuranics as defined by §336.2(109). The remaining paragraphs are renumbered accordingly. Section 336.701(b)(4) is proposed to be amended to add back the title of the referenced section, which was previously in the proposed to be deleted §336.701(b)(3). Section 336.701(c) is proposed to be deleted because the TNRCC no longer has jurisdiction over byproduct material as defined in §336.2(13)(B). The subsequent subsections are relettered. Newly renumbered §336.701(c) is proposed to be amended to correct the title of Subchapter C, as proposed. Section 336.701(d) is proposed to be amended to clarify that facilities authorized under §336.501(b) are to be licensed under Subchapter F and are not subject to Subchapter H. Section 336.701(e) contains language, with some change, moved from existing §336.339 (see discussion under §336.339).

Section 336.702 is proposed to be amended to delete the paragraph (6) definition of “Disposal” to conform with the HB 1172 definition of “Disposal,” which is located in proposed §336.2(29), and the remaining paragraphs are renumbered accordingly. Because of HB 1172 changes, the renumbered paragraph (21) replaces the definition of “Waste” with the appropriate reference.

Section 336.705 is proposed to be amended to add “Chapter 305 of this title (relating to Consolidated Permits)” as part of the effort to make the radiation control program’s application process consistent with that of the other permitting programs of the agency.

Section 336.718(b) is proposed to be amended to add “Chapter 305 of this title (relating to Consolidated Permits)” to indicate that license renewal applications must also be filed in accordance with this chapter to make the radiation control program’s application process consistent with that of the other permitting programs of the agency.

Section 336.742 is proposed to be repealed because it would duplicate language in §305.125(10) (relating to Inspections), which under these proposed rules, will apply to Subchapter H.

#### FISCAL NOTE

Jeff Grymkoski, Director, Strategic Planning and Appropriations, has determined that for the first five-year period the proposed rules are in effect, there will be no significant fiscal implications for the commission or other units of state and local government as a result of administration or enforcement of the proposed rules.

The proposed rules would implement certain provisions of HB 1172, 76th Legislature, 1999 (an Act relating to the definition of low-level radioactive waste) by making radiation control program application requirements consistent with those of the other permitting programs of the agency, reorganizing Chapter 336 for easier use and greater clarity, clarifying wording, eliminating unnecessary or repetitive language, and improving readability.

Changes to implement HB 1172 are: (1) amending the definition of low-level radioactive waste to be compatible with the NRC’s definition; (2) incorporating the TNRCC’s new authority to exempt from

application of a rule; (3) adding an exemption to continue or expand on-site low-level radioactive waste disposal begun before September 9, 1989; and (4) adding exemptions from radioactive material licensing requirements for facilities participating in the Voluntary Cleanup Program or Superfund cleanups.

These rules are not anticipated to impose any new regulatory requirements on the 12 sites which are known to have buried radioactive material and will be affected by the proposed rules.

#### PUBLIC BENEFIT

Mr. Grymkoski has also determined that for each year of the first five years the proposed rules are in effect, the public benefit anticipated from enforcement and compliance with the proposed rules will be enhanced compliance by revising the definition of low-level radioactive waste to be more consistent with federal rules, by making the radiation control license application rule requirements more consistent with the other agency application requirements, and by making the rules clearer and easier to use.

Implementation of these rules is not anticipated to have an adverse economic affect on any person, business, or facility required to comply with the proposed rules. These rules are not anticipated to impose any new regulatory requirements on the 12 sites which are known to have buried radioactive material because no new requirements are added for disposal facilities that are not already required by current federal and state laws.

#### SMALL AND MICRO-BUSINESS IMPACT ANALYSES

The TNRCC has identified three small businesses or micro-businesses that could be affected by the proposed rules. These three businesses are: ISO-TEX, Brazoria County; Urban Machine Services, Harris County; and Houston Gamma Ray, Harris County. However, these rules are not anticipated to pose any new adverse economic impact on these or any other small and micro-businesses because these rules impose no new requirements that do not already exist under current federal and state laws.

#### DRAFT REGULATORY IMPACT ANALYSIS

The commission has reviewed the proposed rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and has determined that the rulemaking is not subject to §2001.0225 because it does not meet the definition of a “major environmental rule” as defined in that statute. “Major environmental rule” means a rule the specific intent of which is to protect the environment or reduce risks to human health from environmental exposure and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The proposed amendments to Chapter 336 are not anticipated to adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state because there are no significant requirements added to radioactive material disposal facilities. The amendments are either required by state or federal laws, or are part of agency efforts to streamline its permitting process. (Also see discussion in proposed Chapter 305.)

#### TAKINGS IMPACT ASSESSMENT

The commission has prepared a takings impact assessment for these rules pursuant to Texas Government Code, §2007.043. The following is a summary of that assessment. The specific purpose of the rules is to: (1) implement HB 1172, 76th Legislature, 1999, and its amendments to the THSC; (2) implement the recommendations of the TNRCC's BPR-PIT to provide for consistency between the procedures of the radiation control program and the the other permitting programs of the agency; and (3) improve readability and understanding by reorganizing Chapter 336, putting its requirements into plain English and eliminating redundancies and conflicts. The rules will substantially advance these specific purposes by incorporating these changes to implement HB 1172: (1) amending the definition of low-level radioactive waste to be compatible with the NRC's definition; (2) incorporating the TNRCC's new exemption from rule authority; (3) adding an exemption to continue or expand on-site low-level radioactive waste disposal licensed before September 9, 1989; and (4) adding exemptions from radioactive material licensing requirements for facilities participating in the Voluntary Cleanup Program or Superfund cleanups. In addition, the rules implement recommendations of BPR-PIT by using the agency's definitions for major and minor amendments rather than radiation control program specific definitions; by moving the application process from Chapter 336 to Chapter 281 and Chapter 305 and amending it to be consistent with other agency application procedures; by making Chapter 336 more understandable by partially reorganizing the chapter; and by clarifying wording, eliminating unnecessary or repetitive language, and improving readability. Promulgation and enforcement of these rules will not burden private real property which is the subject of the rules because there are no significant requirements added to radioactive material disposal facilities. The amendments are either required by state or federal laws, or are part of agency efforts to streamline its permitting process.

#### COASTAL MANAGEMENT PROGRAM CONSISTENCY REVIEW

The commission has reviewed the proposed rulemaking and found that the rules are neither identified in the Coastal Coordination Act Implementation Rules, 31 TAC §505.11, relating to Actions and Rules Subject to the Texas Coastal Management Program (CMP), nor will they affect any action/authorization identified in Coastal Coordination Act Implementation Rules, 31 TAC §505.11. Therefore, the proposal is not subject to the CMP.

#### PUBLIC HEARING

A public hearing on this proposal will be held in Austin on July 6, 2000, at 10:00 a.m. in Building F, Room 2210 at the Texas Natural Resource Conservation Commission Complex, located at 12100 Park 35 Circle. Individuals may present oral statements when called upon in order of registration. Open discussion will not occur during the hearing; however, an agency staff member will be available to discuss the proposal 30 minutes prior to the hearing and will answer questions before and after the hearing.

Persons with disabilities who have special communication or other accommodation needs, who are planning to attend the hearing, should contact the Office of Environmental Policy, Analysis, and Assessment, MC 205, P.O. Box 13087, Austin, Texas 78711-3078 or faxed to (512) 239-4808.

#### SUBMITTAL OF COMMENTS

Comments may be submitted to Lola Brown, Office of Environmental Policy, Analysis, and Assessment, MC 205, P.O. Box 13087, Austin, Texas 78711-3087 or faxed to (512) 239-4808. All

comments should reference Rule Log Number 1999-057-336-WS. Comments must be received by 5:00 p.m., July 17, 2000. For further information or questions concerning this proposal, please contact Hygie Reynolds, Waste Permits Division, (512) 239-6825.

#### STATUTORY AUTHORITY

The amendments are proposed under the Texas Radiation Control Act; THSC, §§401.011, 401.051, 401.057, 401.101, 401.103(b) and (c), 401.104(b)-(e), 401.106(b) and (c), 401.201-401.203, 401.303, 401.412, and 401.413; Texas Government Code, §2001.004(1); and Texas Water Code, §5.103.

These amendments implement THSC, Chapter 401, relating to Radioactive Materials and Other Sources of Radiation.

**SUBCHAPTER A: GENERAL PROVISIONS**

**§§336.1, 336.2, 336.5**

**§336.1. Scope and General Provisions.**

(a) Except as otherwise specifically provided, the rules in this chapter [Chapter 336 of this title (Radioactive Substance Rules)] apply to all persons who dispose of radioactive substances, except byproduct material defined by §336.2(13)(B) of this title (relating to Definitions).

(1) However, nothing in these rules shall apply to any person to the extent that person is subject to regulation by the United States Nuclear Regulatory Commission (USNRC) or to radioactive material in the possession of federal agencies.

(2) Any United States Department of Energy contractor or subcontractor or any USNRC contractor or subcontractor of the following categories operating within the state, is exempt from the rules in this chapter, with the exception of any applicable fee set forth in Subchapter B of this chapter, to the extent that such contractor or subcontractor under his contract receives, possesses, uses, transfers, or acquires sources of radiation:

(A) prime contractors performing work for the United States Department of Energy at a United States government-owned or controlled site, including the transportation of

radioactive material to or from the site and the performance of contract services during temporary interruptions of transportation;

(B) prime contractors of the United States Department of Energy performing research in or development, manufacture, storage, testing, or transportation of atomic weapons or components thereof;

(C) prime contractors of the United States Department of Energy using or operating nuclear reactors or other nuclear devices in a United States government-owned vehicle or vessel; and

(D) any other prime contractor or subcontractor of the United States Department of Energy or the USNRC when the state and the USNRC jointly determine that:

(i) the exemption of the prime contractor or subcontractor is authorized by law; and

(ii) under the terms of the contract or subcontract, there is adequate assurance that the work thereunder can be accomplished without undue risk to the public health and safety or the environment.

(3) Radioactive material that is physically received from the federal government by a non-federal facility is subject to state jurisdiction except as provided in paragraph (2) of this subsection.

(4) The rules of this chapter do not apply to transportation of radioactive materials.  
This provision does not exempt a transporter from other applicable requirements.

(5) The rules in this chapter do not apply to the disposal of radiation machines as defined in this subchapter or electronic devices which produce non-ionizing radiation.

(b) Regulation by the State of Texas of source material, byproduct material, and special nuclear material in quantities not sufficient to form a critical mass is subject to the provisions of the agreement between the State of Texas and the USNRC and to Part 150 of Title 10 Code of Federal Regulations (10 CFR Part 150) (Exemptions and Continued Regulatory Authority in Agreement States and in Offshore Waters Under Section 274). (A copy of the Texas agreement, "Articles of Agreement between the United States Atomic Energy Commission and the State of Texas for Discontinuance of Certain Commission Regulatory Authority and Responsibility Within the State Pursuant to Section 274 of the Atomic Energy Act of 1954, as Amended" (Agreement), may be obtained from this agency [the UIC and Radioactive Waste Section, MC 131, Industrial and Hazardous Waste Division, Texas Natural Resource Conservation Commission, P.O. Box 13087, Austin, Texas 78711-3087].) Under the Agreement and 10 CFR Part 150, the USNRC retains certain regulatory authorities over source material, byproduct material, and special nuclear material in the State of Texas. Persons in the State of

Texas are not exempt from the regulatory requirements of the USNRC with respect to these retained authorities.

(c) (No change.)

(d) Each person licensed by the commission under this chapter [subchapter] shall confine possession, [and] use, and disposal of licensed radioactive material to the locations and purposes authorized in the license.

(e) (No change.)

(f) No person shall:

(1) dispose of low-level radioactive waste on site, except as authorized under §336.501(b) of this title (relating to Scope and General Provisions);

(2) receive low-level radioactive waste from other persons for the purpose of disposal, except for a public entity specifically licensed for the disposal of low-level radioactive waste; or

(3) dispose of radioactive materials other than low-level radioactive waste, except for diffuse naturally occurring radioactive material waste having concentrations of less than 2000 pCi/g radium 226 or radium 228.

(g) For the purpose of this chapter, any time the term “low-level radioactive waste” is used, the provision also applies to accelerator-produced radioactive material.

**§336.2. Definitions.**

The following words and terms, when used in this chapter, shall have the following meanings, or as described in Chapter 3 of this title (relating to Definitions), unless the context clearly indicates otherwise. Additional definitions used only in a certain subchapter will be found in that subchapter.

(1)-(12) (No change.)

(13) **Byproduct material** -

(A) A radioactive material, other than special nuclear material, that is produced in or made radioactive by exposure to radiation incident to the process of producing or using special nuclear material; or [and]

(B) (No change.)

(14) (No change.)

(15) **Class** - A classification scheme for inhaled material according to its rate of clearance from the pulmonary region of the lung. Materials are classified as D, W, or Y, which applies to a range of clearance half-times: for Class D (Days) of less than ten [10] days, for Class W (Weeks) from 10 to 100 days, and for Class Y (Years) of greater than 100 days. For purposes of the rules in this chapter, "lung class" and "inhalation class" are equivalent terms.

(16) (No change.)

(17)-(22) (No change.)

(23) **Deep-dose equivalent ( $H_d$ ) (which applies to external whole-body exposure)** - The dose equivalent at a tissue depth of one [1] centimeter (1,000 milligrams/square centimeter).

(24)-(25) (No change.)

(26) **Derived air concentration-hour (DAC-hour)** - The product of the concentration of radioactive material in air (expressed as a fraction or multiple of the derived air concentration for each radionuclide) and the time of exposure to that radionuclide, in hours. A licensee shall take 2,000 DAC-hours to represent one ALI, equivalent to a committed effective dose equivalent of five [5] rems (0.05 sievert).

(27) **Disposal** - With regard to low-level radioactive waste, the isolation or removal of low-level radioactive waste from mankind and mankind's environment without intent to retrieve that low-level radioactive waste later.

(28) [(27)] **Distinguishable from background** - The detectable concentration of a radionuclide is statistically different from the background concentration of that radionuclide in the vicinity of the site or, in the case of structures, in similar materials using adequate measurement technology, survey, and statistical techniques.

(29) [(28)] **Dose** - A generic term that means absorbed dose, dose equivalent, effective dose equivalent, committed dose equivalent, committed effective dose equivalent, total organ dose equivalent, or total effective dose equivalent. For purposes of the rules in this chapter, "radiation dose" is an equivalent term.

(30) [(29)] **Dose equivalent ( $H_T$ )** - The product of the absorbed dose in tissue, quality factor, and all other necessary modifying factors at the location of interest. The units of dose equivalent are the rem and sievert (Sv).

(31) [(30)] **Dose limits** - The permissible upper bounds of radiation doses established in accordance with the rules in this chapter. For purposes of the rules in this chapter, "limits" is an equivalent term.

(32) [(31)] **Dosimetry processor** - An individual or organization that processes and evaluates individual monitoring devices in order to determine the radiation dose delivered to the monitoring devices.

(33) [(32)] **Effective dose equivalent ( $H_E$ ) [ $(H_D)$ ]** - The sum of the products of the dose equivalent to each organ or tissue ( $H_T$ ) and the weighting factor ( $w_T$ ) applicable to each of the body organs or tissues that are irradiated.

(34) [(33)] **Embryo/fetus** - The developing human organism from conception until the time of birth.

(35) [(34)] **Entrance or access point** - Any opening through which an individual or extremity of an individual could gain access to radiation areas or to licensed radioactive materials. This includes portals of sufficient size to permit human access, irrespective of their intended use.

(36) [(35)] **Exposure** - Being exposed to ionizing radiation or to radioactive material.

(37) [(36)] **Exposure rate** - The exposure per unit of time.

(38) [(37)] **External dose** - That portion of the dose equivalent received from any source of radiation outside the body.

(39) [(38)] **Extremity** - Hand, elbow, arm below the elbow, foot, knee, and leg below the knee. The arm above the elbow and the leg above the knee are considered part of the whole body.

(40) [(39)] **Eye dose equivalent** - The external dose equivalent to the lens of the eye at a tissue depth of 0.3 centimeter (300 milligrams/square centimeter).

(41) [(40)] **General license** - An authorization granted by an agency under its rules which is effective without the filing of an application with that agency or the issuance of a licensing document to the particular person.

(42) [(41)] **Generally applicable environmental radiation standards** - Standards issued by the EPA [United States Environmental Protection Agency] under the authority of the Atomic Energy Act of 1954, as amended through October 4, 1996, that impose limits on radiation exposures or levels, or concentrations or quantities of radioactive material, in the general environment outside the boundaries of locations under the control of persons possessing or using radioactive material.

(43) [(42)] **Gray (Gy)** - See §336.3 of this title (relating to Units of Radiation Exposure and Dose).

(44) [(43)] **High radiation area** - An area, accessible to individuals, in which radiation levels could result in an individual receiving a dose equivalent in excess of 0.1 rem (1 millisievert) in

one [1] hour at 30 centimeters from any source of radiation or from any surface that the radiation penetrates.

(45) [(44)] **Individual** - Any human being.

(46) [(45)] **Individual monitoring** - The assessment of:

(A) dose equivalent by the use of individual monitoring devices; or

(B) committed effective dose equivalent by bioassay or by determination of the time-weighted air concentrations to which an individual has been exposed, that is, DAC-hours; or

(C) dose equivalent by the use of survey data.

(47) [(46)] **Individual monitoring devices** - Devices designed to be worn by a single individual for the assessment of dose equivalent. For purposes of the rules in this chapter, "individual monitoring equipment," "personnel dosimeter," and "dosimeter" are equivalent terms. Examples of individual monitoring devices are film badges, thermoluminescent dosimeters (TLDs), pocket ionization chambers, and personal ("lapel") air sampling devices.

(48) [(47)] **Inhalation class** - See "Class."

(49) [(48)] **Inspection** - An official examination and/or observation including, but not limited to, records, tests, surveys, and monitoring to determine compliance with the Texas Radiation Control Act (TRCA) and rules, orders, and license conditions of the commission.

(50) [(49)] **Internal dose** - That portion of the dose equivalent received from radioactive material taken into the body.

(51) [(50)] **Land disposal facility** - The land, buildings and structures, and equipment which are intended to be used for the disposal of low-level radioactive wastes into the subsurface of the land. For purposes of this chapter, a "geologic repository" as defined in 10 CFR 60.2 as amended through October 27, 1988 (53 FedReg 43421) (relating to Definitions - high-level radioactive wastes in geologic repositories) is not considered a "land disposal facility."

(52) [(51)] **License** - See "Specific license."

(53) [(52)] **Licensed material** - Radioactive material received, possessed, used, processed, transferred, or disposed of under a license issued by the commission

(54) [(53)] **Licensee** - Any person who holds a license issued by the commission in accordance with the TRCA and the rules in this chapter. For purposes of the rules in this chapter, "radioactive material licensee" is an equivalent term. Unless stated otherwise, "licensee" as used in the rules of this chapter means the holder of a "specific license."

(55) [(54)] **Licensing state** - Any state with rules equivalent to the Suggested State Regulations for Control of Radiation relating to, and having an effective program for, the regulatory control of naturally occurring or accelerator-produced radioactive material (NARM) and which has been designated as such by the Conference of Radiation Control Program Directors, Inc.

(56) [(55)] **Lost or missing licensed radioactive material** - Licensed material whose location is unknown. This definition includes material that has been shipped but has not reached its planned destination and whose location cannot be readily traced in the transportation system.

(57) [(56)] **Low-level radioactive waste** - [See "Radioactive waste."]

(A) Except as provided by subparagraph (B) of this paragraph, low-level radioactive waste means radioactive material that:

(i) is discarded or unwanted and is not exempt by a Texas Department of Health rule adopted under the Texas Health and Safety Code, §401.106;

(ii) is waste, as that term is defined by 10 CFR §61.2; and

(iii) is subject to:

(I) concentration limits established under this chapter; and

(II) disposal criteria established under this chapter.

(B) Low-level radioactive waste does not include:

(i) high-level radioactive waste defined by 10 CFR §60.2;

(ii) spent nuclear fuel as defined by 10 CFR §72.3;

(iii) transuranic waste as defined by paragraph (107) of this section;

(iv) byproduct material as defined by paragraph (13)(B) of this section;

(v) naturally occurring radioactive material (NORM) waste; or

(vi) oil and gas NORM waste.

(C) When used in this section, the references to 10 CFR sections mean those CFR sections as they existed on September 1, 1999, as required by Texas Health and Safety Code, §401.005.

(58) [(57)] Lung class - See "Class."

**[(58) Major amendment -]**

[(A) An amendment to a license issued under Subchapter F of Chapter 336 of this title (relating to Licensing of Alternative Methods of Disposal of Radioactive Material) which:]

[(i) authorizes a transfer of a license to another person;]

[(ii) authorizes enlargement of the disposal area beyond that authorized in the existing license or addition of disposal areas; or]

[(iii) authorizes a substantive change in the nature of the wastes to be disposed of or the method of disposal.]

[(B) An amendment to a license issued under Subchapter H of Chapter 336 of this title (relating to Licensing Requirements for Near-Surface Land Disposal of Radioactive Waste) which:]

[(i) authorizes a change in the type or concentration limits of wastes to be received;]

[(ii) authorizes receipt of wastes from other states not authorized in the existing license;]

[(iii) authorizes a change in the operator of the facility;]

[(iv) authorizes closure and the final closure plan for the disposal site;

or]

[(v) transfers the license to the custodial agency.]

[(C) Any other amendment for which the executive director has prepared a written environmental analysis or has determined that an environmental analysis is required.]

(59) **Member of the public** - Any individual except when that individual is receiving an occupational dose.

(60) **Minor** - An individual less than 18 years of age.

[(61) **Minor amendment** - Any amendment to a license issued under this chapter which is not defined as a major amendment in this section and does not have a significant impact or effect on the human environment.]

(61) [(62)] **Monitoring** - The measurement of radiation levels, radioactive material concentrations, surface area activities, or quantities of radioactive material and the use of the results of

these measurements to evaluate potential exposures and doses. For purposes of the rules in this chapter, "radiation monitoring" and "radiation protection monitoring" are equivalent terms.

(62) [(63)] **Naturally occurring or accelerator-produced radioactive material**

**(NARM)** - Any naturally occurring or accelerator-produced radioactive material except source material or special nuclear material.

(63) [(64)] **Naturally occurring radioactive material (NORM) waste** - Solid, liquid,

or gaseous material or combination of materials, excluding source material, special nuclear material, and byproduct material, that:

(A) in its natural physical state spontaneously emits radiation;

(B) is discarded or unwanted; and

(C) is not exempt under rules of the Texas Department of Health adopted under Texas Health and Safety Code, §401.106.

(64) [(65)] **Near-surface disposal facility** - A land disposal facility in which low-level

radioactive waste is disposed of in or within the upper 30 meters of the earth's surface.

(65) [(66)] **Nonstochastic effect** - A health effect, the severity of which varies with the dose and for which a threshold is believed to exist. Radiation-induced cataract formation is an example of a nonstochastic effect. For purposes of the rules in this chapter, "deterministic effect" is an equivalent term.

(66) [(67)] **Occupational dose** - The dose received by an individual in the course of employment in which the individual's assigned duties involve exposure to radiation and/or to radioactive material from licensed and unlicensed sources of radiation, whether in the possession of the licensee or other person. Occupational dose does not include dose received from background radiation, as a patient from medical practices, from voluntary participation in medical research programs, or as a member of the public.

(67) [(68)] **Oil and gas naturally occurring radioactive material (NORM) waste** - Naturally occurring radioactive material (NORM) waste that constitutes, is contained in, or has contaminated oil and gas waste as that term is defined in the Texas Natural Resources Code, §91.1011.

(68) **On-site** - The same or geographically contiguous property that may be divided by public or private rights-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing, as opposed to going along, the right-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way that the property owner controls and to which the public does not have access, is also considered on-site property.

(69) **Personnel monitoring equipment** - See "Individual monitoring devices."

(70) **Planned special exposure** - An infrequent exposure to radiation, separate from and in addition to the annual occupational dose limits.

(71) **Principal activities** - Activities authorized by the license 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.

(72) **Public dose** - The dose received by a member of the public from exposure to radiation and/or radioactive material released by a licensee, or to any other source of radiation under the control of the licensee. It does not include occupational dose or doses received from background radiation, as a patient from medical practices, or from voluntary participation in medical research programs.

(73) **Quality factor (Q)** - The modifying factor listed in Table I or II of §336.3 of this title that is used to derive dose equivalent from absorbed dose.

(74) **Quarter (Calendar quarter)** - A period of time equal to one-fourth of the year observed by the licensee (approximately 13 consecutive weeks), providing that the beginning of the first

quarter in a year coincides with the starting date of the year and that no day is omitted or duplicated in consecutive quarters.

(75) **Rad** - See §336.3 of this title.

(76) **Radiation** - Alpha particles, beta particles, gamma rays, x-rays, neutrons, high-speed electrons, high-speed protons, and other particles capable of producing ions. For purposes of the rules in this chapter, "ionizing radiation" is an equivalent term. Radiation, as used in this chapter, does not include non-ionizing radiation, such as radio- or microwaves or visible, infrared, or ultraviolet light.

(77) **Radiation and Perpetual Care Fund** - A fund established in the treasury of the State of Texas for the purposes set forth in the TRCA<sub>2</sub> §401.305.

(78) **Radiation area** - Any area, accessible to individuals, in which radiation levels could result in an individual receiving a dose equivalent in excess of 0.005 rem (0.05 millisievert) in one [1] hour at 30 centimeters from the source of radiation or from any surface that the radiation penetrates.

(79) **Radiation machine** - Any device capable of producing ionizing radiation except those devices with radioactive material as the only source of radiation.

(80) **Radioactive material** - A naturally-occurring or artificially-produced solid, liquid, or gas that emits radiation spontaneously.

(81) **Radioactive substance** - Includes byproduct material, radioactive material, low-level radioactive waste, source material, special nuclear material, source of radiation, and NORM waste, excluding oil and gas NORM waste.

[(82) **Radioactive waste** - Radioactive material other than byproduct material as defined in subparagraph (B) of the definition of “byproduct material” of this section, uranium ore, NORM waste, or oil and gas NORM waste, that is discarded or unwanted and is not exempt under rules of the Texas Department of Health adopted under Health and Safety Code, §401.106, or would require processing before it could have beneficial reuse. For purposes of the rules in this chapter, radioactive waste also excludes waste classified as high-level radioactive waste, transuranic waste, or spent nuclear fuel. For purposes of the rules in this chapter, radioactive waste means "low-level radioactive waste" as that term is used in 10 CFR Part 61 as amended through May 9, 1995 (60 FedReg 24552) (relating to Licensing Requirements for Land Disposal of Radioactive Waste). For purposes of the rules in this chapter, "radioactive waste" and "low-level radioactive waste" are equivalent terms. For purposes of the rules in this chapter, radioactive waste and low-level radioactive waste include accelerator-produced radioactive material.]

(82) [(83)] **Radioactivity** - The disintegration of unstable atomic nuclei with the emission of radiation.

(83) [(84)] **Radiobioassay** - See "Bioassay."

(84) [(85)] **Reference man** - A hypothetical aggregation of human physical and physiological characteristics determined by international consensus. These characteristics shall be used by researchers and public health workers to standardize results of experiments and to relate biological insult to a common base. A description of "reference man" is contained in the International Commission on Radiological Protection report, ICRP Publication 23, "Report of the Task Group on Reference Man."

(85) [(86)] **Rem** - See §336.3 of this title.

(86) [(87)] **Residual radioactivity** - Radioactivity in structures, materials, soils, groundwater, and other media at a site resulting from activities under the licensee's control. This includes radioactivity from all licensed and unlicensed sources used by the licensee, but excludes background radiation. It also includes radioactive materials remaining at the site as a result of routine or accidental releases of radioactive material at the site and previous burials at the site, even if those burials were made in accordance with the provisions of 10 CFR Part 20.

(87) [(88)] **Respiratory protection equipment** - An apparatus, such as a respirator, used to reduce an individual's intake of airborne radioactive materials. For purposes of the rules in this chapter, "respiratory protective device" is an equivalent term.

(88) [(89)] **Restricted area** - An area, access to which is limited by the licensee for the purpose of protecting individuals against undue risks from exposure to radiation and radioactive materials. Restricted area does not include areas used as residential quarters, but separate rooms in a residential building shall be set apart as a restricted area.

(89) [(90)] **Roentgen (R)** - See §336.3 of this title.

(90) [(91)] **Sanitary sewerage** - A system of public sewers for carrying off waste water and refuse, but excluding sewage treatment facilities, septic tanks, and leach fields owned or operated by the licensee.

(91) [(92)] **Sealed source** - Radioactive material that is permanently bonded or fixed in a capsule or matrix designed to prevent release and dispersal of the radioactive material under the most severe conditions that are likely to be encountered in normal use and handling.

(92) [(93)] **Shallow-dose equivalent ( $H_s$ ) (which applies to the external exposure of the skin or an extremity)** - The dose equivalent at a tissue depth of 0.007 centimeter (seven [7] milligrams/square centimeter) averaged over an area of one [1] square centimeter.

(93) [(94)] **SI** - The abbreviation for the International System of Units.

(94) [(95)] **Sievert (Sv)** - See §336.3 of this title.

(95) [(96)] **Site boundary** - That line beyond which the land or property is not owned, leased, or otherwise controlled by the licensee.

(96) [(97)] **Source material** -

(A) Uranium or thorium, or any combination thereof, in any physical or chemical form; or

(B) ores [Ores] that contain, by weight, 0.05% or more of uranium, thorium, or any combination thereof. Source material does not include special nuclear material.

(97) [(98)] **Special form radioactive material** - Radioactive material which is either a single solid piece or is contained in a sealed capsule that can be opened only by destroying the capsule and which has at least one dimension not less than five [5] millimeters and which satisfies the test requirements of 10 CFR 71.75 as amended through September 28, 1995 (60 FedReg 50264) (Transportation of License Material).

(98) [(99)] **Special nuclear material** -

(A) Plutonium, uranium-233, uranium enriched in the isotope 233 or in the isotope 235, and any other material that the USNRC, under the provisions of the Atomic Energy Act of

1954, §51, as amended through November 2, 1994 (Pub.L. 103-437), determines to be special nuclear material, but does not include source material; or

(B) any [Any] material artificially enriched by any of the foregoing, but does not include source material.

(99) [(100)] **Special nuclear material in quantities not sufficient to form a critical mass** - Uranium enriched in the isotope 235 in quantities not exceeding 350 grams of contained uranium-235; uranium-233 in quantities not exceeding 200 grams; plutonium in quantities not exceeding 200 grams; or any combination of these in accordance with the following formula: For each kind of special nuclear material, determine the ratio between the quantity of that special nuclear material and the quantity specified above for the same kind of special nuclear material. The sum of such ratios for all of the kinds of special nuclear material in combination shall not exceed 1. For example, the following quantities in combination would not exceed the limitation: (175 grams contained U-235/350 grams) + (50 grams U-233/200 grams) + (50 grams Pu/200 grams) = 1.

(100) [(101)] **Specific license** - A licensing document issued by an agency upon an application filed under its rules. For purposes of the rules in this chapter, "radioactive material license" is an equivalent term. Unless stated otherwise, "license" as used in this chapter means a "specific license."

(101) [(102)] **State** - The State of Texas.

(102) [(103)] **Stochastic effect** - A health effect that occurs randomly and for which the probability of the effect occurring, rather than its severity, is assumed to be a linear function of dose without threshold. Hereditary effects and cancer incidence are examples of stochastic effects. For purposes of the rules in this chapter, "probabilistic effect" is an equivalent term.

(103) [(104)] **Survey** - An evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, and/or presence of radioactive materials or other sources of radiation. When appropriate, this evaluation includes, but is not limited to, physical examination of the location of radioactive material and measurements or calculations of levels of radiation or concentrations or quantities of radioactive material present.

(104) [(105)] **Termination** - As applied to a license, a release by the commission of the obligations and authorizations of the licensee under the terms of the license. It does not relieve a person of duties and responsibilities imposed by law.

(105) [(106)] **Total effective dose equivalent (TEDE)** - The sum of the deep-dose equivalent for external exposures and the committed effective dose equivalent for internal exposures.

(106) [(107)] **Total organ dose equivalent (TODE)** - The sum of the deep-dose equivalent and the committed dose equivalent to the organ receiving the highest dose as described in §336.346(a)(6) of this title (relating to Records of Individual Monitoring Results).

(107) **Transuranic waste** - For the purposes of this chapter, wastes containing alpha emitting transuranic radionuclides with a half-life greater than five years at concentrations greater than 100 nanocuries/gram.

(108) **Type A quantity (for packaging)** - A quantity of radioactive material, the aggregate radioactivity of which does not exceed  $A_1$  for special form radioactive material or  $A_2$  for normal form radioactive material, where  $A_1$  and  $A_2$  are given in or shall be determined by procedures in Appendix A to 10 CFR Part 71 as amended through September 28, 1995 (60 FedReg 50264) (Packaging and Transportation of Radioactive Material).

(109) **Type B quantity (for packaging)** - A quantity of radioactive material greater than a Type A quantity.

(110) **Unrefined and unprocessed ore** - Ore in its natural form before any processing, such as grinding, roasting, beneficiating, or refining.

(111) **Unrestricted area** - Any area that is not a restricted area.

(112) **Very high radiation area** - An area, accessible to individuals, in which radiation levels could result in an individual receiving an absorbed dose in excess of 500 rads (five [5] grays) in one [1] hour at one [1] meter from a source of radiation or from any surface that the radiation

penetrates. (At very high doses received at high dose rates, units of absorbed dose (rad and gray) are appropriate, rather than units of dose equivalent (rem and sievert).)

(113) **Violation** - An infringement of any provision of the TRCA or of any rule, order, or license condition of the commission issued under the TRCA or this chapter.

(114) **Week** - Seven consecutive days starting on Sunday.

(115) **Weighting factor ( $w_T$ ) for an organ or tissue (T)** - The proportion of the risk of stochastic effects resulting from irradiation of that organ or tissue to the total risk of stochastic effects when the whole body is irradiated uniformly. For calculating the effective dose equivalent, the values of  $w_T$  are:

Figure: 30 TAC §336.2(115) (No change.)

(116) **Whole body** - For purposes of external exposure, head, trunk including male gonads, arms above the elbow, or legs above the knee.

(117) **Worker** - An individual engaged in activities under a license issued by the commission and controlled by a licensee, but does not include the licensee.

(118) **Working level (WL)** - Any combination of short-lived radon daughters in one [1] liter of air that will result in the ultimate emission of  $1.3 \times 10^5$  million electron volts (MeV) of

potential alpha particle energy. The short-lived radon daughters are: for radon-222: polonium-218, lead-214, bismuth-214, and polonium-214; and for radon-220: polonium-216, lead-212, bismuth-212, and polonium-212.

(119) **Working level month (WLM)** - An exposure to one [1] working level for 170 hours (2,000 working hours per year divided by 12 months per year is approximately equal to 170 hours per month).

(120) **Year** - The period of time beginning in January used to determine compliance with the provisions of the rules in this chapter. The licensee shall change the starting date of the year used to determine compliance by the licensee provided that the change is made at the beginning of the year and that no day is omitted or duplicated in consecutive years.

### **§336.5. Exemptions.**

(a) [General provision.] The commission shall [may, upon application therefor or upon its own initiative, grant those exemptions or exceptions] exempt a source of radiation or a kind of use or user from the application of a rule [requirements of the rules] in this chapter if [as] it determines that the exemption is not prohibited [are authorized] by law and will not result in a significant [undue] risk to public health and safety [or property] or the environment. Persons requesting an exemption shall submit an application to the agency using the process in Chapter 90 of this title (relating to Regulatory Flexibility), including the submittal of any fees and which includes:

(1) the nature of the request;

(2) a legal analysis to demonstrate that the exemption is not prohibited by law;

(3) a technical analysis to demonstrate that the exemption will not result in a significant risk to public health and safety or the environment; and

(4) a detailed explanation, including a demonstration as appropriate, that the proposed exemption is:

(A) not prohibited by law, including any requirement for a federally approved or authorized program; and

(B) at least as protective of the environment and the public health as the method or standard prescribed by the commission rule that would otherwise apply.

(b) A person who is subject to an order issued under Texas Health and Safety Code, §361.188 or §361.272, for sites subject to Texas Health and Safety Code, Subchapter F, Chapter 361, or an agreement entered into under Texas Health and Safety Code, §361.606, is exempt from the requirement to obtain a license or other authorization from the commission. This provision does not exempt the person from complying with technical standards under this chapter. The exemption applies only to the assessment and remediation of the contamination at the site.

[(b) Carriers. Common and contract carriers, freight forwarders, and warehousemen are exempt from commission rules in this chapter to the extent that they transport or store radioactive materials in the regular course of carriage for another person or storage incident thereto. Private carriers are exempt from commission rules in this chapter to the extent that they transport radioactive materials. Common and contract carriers, freight forwarders, warehousemen, and private carriers are subject to applicable rules of the United States Department of Transportation, the United States Postal Service or, for intrastate transportation, the Texas Department of Health. Packaging and transportation of radioactive material are also subject to applicable rules of the United States Nuclear Regulatory Commission (10 CFR Part 71, Packaging and Transportation of Radioactive Material).]

[(c) Waste, that is exempted from licensing requirements by the Texas Department of Health under Texas Health and Safety Code, §401.106(a), is exempted from the requirements of this chapter.]

[(c) United States Department of Energy contractors and United States Nuclear Regulatory Commission contractors. Any United States Department of Energy contractor or subcontractor or any United States Nuclear Regulatory Commission contractor or subcontractor of the following categories operating within the State is exempt from the rules in this chapter, with the exception of any applicable fee set forth in Subchapter B of this chapter (relating to Radioactive Substance Fees), to the extent that such contractor or subcontractor under his contract receives, possesses, uses, transfers, or acquires sources of radiation:]

[(1) prime contractors performing work for the United States Department of Energy at a United States government-owned or controlled site, including the transportation of radioactive material to or from the site and the performance of contract services during temporary interruptions of transportation;]

[(2) prime contractors of the United States Department of Energy performing research in or development, manufacture, storage, testing, or transportation of atomic weapons or components thereof;]

[(3) prime contractors of the United States Department of Energy using or operating nuclear reactors or other nuclear devices in a United States government-owned vehicle or vessel; and]

[(4) any other prime contractor or subcontractor of the United States Department of Energy or the United States Nuclear Regulatory Commission when the State and the United States Nuclear Regulatory Commission jointly determine that:]

[(A) the exemption of the prime contractor or subcontractor is authorized by law; and]

[(B) under the terms of the contract or subcontract, there is adequate assurance that the work thereunder can be accomplished without undue risk to the public health and safety or the environment.]

**SUBCHAPTER B: RADIOACTIVE SUBSTANCE FEES**

**§§336.103, 336.105, 336.107**

**STATUTORY AUTHORITY**

The amendments are proposed under the Texas Radiation Control Act; THSC, §§401.011, 401.051, 401.057, 401.101, 401.103(b) and (c), 401.104(b)-(e), 401.106(b) and (c), 401.201-401.203, 401.303, 401.412, and 401.413; Texas Government Code, §2001.004(1); and Texas Water Code, §5.103.

These amendments implement THSC, Chapter 401, relating to Radioactive Materials and Other Sources of Radiation.

**§336.103. Schedule of Fees for Subchapter H Licenses.**

(a) An application for a low-level radioactive waste disposal site license under Subchapter H of this chapter (relating to Licensing Requirements for Near-Surface Land Disposal of Low-Level Radioactive Waste) shall be accompanied by an application fee of \$415,000. The application fee covers the cost of processing of the application. The applicant shall pay the application fee in two equal installments. The first payment shall be made upon submission of the application, and the balance shall be paid no more than 12 months later.

(b) An applicant shall submit an annual fee for the actual costs incurred by the commission for hearings associated with an application for a low-level radioactive waste disposal site under Subchapter H of this chapter. The executive director shall send an invoice for the amount of the costs incurred

during the period September 1 through August 31 of each year. Payment shall be made within 30 days following the date of the invoice.

(c) A holder of a license for a low-level radioactive waste disposal site issued under Subchapter H of this chapter shall submit an annual license fee for the services received. This fee shall recover for the state [State] the actual expenses arising from the regulatory activities associated with the license. This fee shall include reimbursement for the salary and other expenses of a resident inspector as provided by §336.743 of this title (relating to Resident Inspector). The executive director shall send an invoice for the amount of the costs incurred during the period September 1 through August 31 of each year. Payment shall be made within 30 days following the date of the invoice.

**§336.105. Schedule of Fees for Other [Subchapter F] Licenses.**

(a) [Application fee.] Each application for a license under Subchapter F of this chapter (relating to Licensing of Alternative Methods of Disposal of Radioactive Material) or Subchapter G of this chapter (relating to Decommissioning Standards) shall be accompanied by an application fee as follows:

(1) facilities regulated under Subchapter G of this chapter [facility at which active disposal operations have ceased]: \$10,000; or

(2) facilities regulated under Subchapter F of this chapter [proposed facility with active disposal operations]: \$20,000.

(b) [Annual license fees.] An annual license fee shall be paid for each license issued under Subchapter F and Subchapter G of this chapter. The amount of each annual fee shall be as follows:

(1) facilities regulated under Subchapter G of this chapter [licensed facility at which active disposal operations have ceased]: \$8,400; or

(2) facilities regulated under Subchapter F of this chapter [licensed facility with active disposal operations]: \$28,900.

(c) [Fees for certain amendment requests.] An application for a major amendment of a license issued under Subchapter F or Subchapter G of this chapter shall be accompanied by an application fee as set forth in this subsection [if the amendment involves expansion of previously authorized disposal facilities or addition of disposal facilities]. The amount of the amendment application fee shall be \$10,000.

(d) Upon permanent cessation of all disposal activities and approval of the final decommissioning plan, holders of licenses issued under Subchapter F of this chapter may use the fee schedule for subsection (c) and (b)(1) of this section.

**§336.107. Annual License Fee Due Date and Period Covered.**

(a) Payment for annual fees set forth in §336.105(b) of this title (relating to Schedule of Fees for Other [Subchapter F] Licenses) shall be due in full each year on or before the last day of the

expiration month of the license. As an example, if the license expires on May 31, 1999, annual fees are due on or before May 31 of each year.

(b) (No change.)

**SUBCHAPTER C: ADDITIONAL APPLICATION, OPERATION, AND  
LICENSE REQUIREMENTS**

**§§336.201, 336.203, 336.205, 336. 207, 336.209-336.211, 336.213, 336.215, 336.219**

**STATUTORY AUTHORITY**

The repeals are proposed under the Texas Radiation Control Act; THSC, §§401.011, 401.051, 401.057, 401.101, 401.103(b) and (c), 401.104(b)-(e), 401.106(b) and (c), 401.201-401.203, 401.303, 401.412, and 401.413; Texas Government Code, §2001.004(1); and Texas Water Code, §5.103.

These repeals implement THSC, Chapter 401, relating to Radioactive Materials and Other Sources of Radiation.

**§336.201. Additional Application Requirements.**

**§336.203. Environmental Analysis.**

**§336.205. Transfer of Radioactive Material.**

**§336.207. Preparation of Radioactive Material for Transport.**

**§336.209. Records and Reports.**

**§336.210. Complaints.**

**§336.211. Reporting Requirements for Incidents.**

**§336.213. Tests.**

**§336.215. Inspections.**

**§336.219. Notice of Bankruptcy.**

**SUBCHAPTER C: GENERAL DISPOSAL REQUIREMENTS**

**§§336.201, 336.203, 336.205, 336. 207, 336.209, 336. 211, 336.213, 336.215, 336.217, 336.219,**  
**336.221, 336.223, 336.225, 336.229**

STATUTORY AUTHORITY

The new sections are proposed under the Texas Radiation Control Act; THSC, §§401.011, 401.051, 401.057, 401.101, 401.103(b) and (c), 401.104(b)-(e), 401.106(b) and (c), 401.201-401.203, 401.303, 401.412, and 401.413; Texas Government Code, §2001.004(1); and Texas Water Code, §5.103.

The new sections implement THSC, Chapter 401, relating to Radioactive Materials and Other Sources of Radiation.

**§336.201. Purpose and Scope.**

This subchapter establishes general disposal requirements for all radioactive materials, except byproduct material defined by §336.2(13)(B) of this title (relating to Definitions) and oil and gas naturally occurring radioactive material waste.

**§336.203. License Required.**

No person shall dispose of radioactive material unless that person has a license from the Texas Natural Resource Conservation Commission, or an exemption from the Texas Department of Health (TDH) under Texas Health and Safety Code, §401.106(a).

**§336.205. Application Requirements.**

(a) Applications shall be submitted according to the requirements of Chapter 305 of this title (relating to Consolidated Permits), unless otherwise indicated.

(b) An application for a license, or amendment of a license shall be accompanied by the appropriate fee, specified in Subchapter B of this chapter (relating to Radioactive Substance Fees).

**§336.207. General Requirements for Issuance of a License.**

An application may be approved if the commission determines that the requirements set forth in the applicable subchapter and Chapter 305, Subchapter C of this title (relating to Application for Permit) have been met and that:

(1) the applicant is qualified by training and experience to conduct the proposed radioactive material disposal activities in accordance with the rules in this chapter in such a manner as to protect and minimize danger to the public health and safety and the environment;

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

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

(4) if applicable, the applicant has demonstrated financial capability to conduct the proposed activity, including all costs associated with decommissioning, decontamination, disposal, reclamation, and any long-term care and surveillance.

**§336.209. Issuance of License.**

Upon a determination that an application meets the requirements of the Texas Health and Safety Code, Chapter 401 and the agency rules relating to radioactive material licensing, the commission may issue a license authorizing the proposed activity.

**§336.211. General Requirements for Radioactive Material Disposal.**

(a) Unless otherwise exempted, a licensee shall dispose of licensed material, as appropriate to the type of licensed material, only:

(1) by transfer to an authorized recipient as provided in §336.331(g) and (h) of this title (relating to Transfer of Radioactive Material) or in Subchapter H of this chapter (relating to Licensing Requirements for Near-Surface Land Disposal of Low-Level Radioactive Waste);

(2) by transfer to a recipient authorized in another state by license issued by the United States Nuclear Regulatory Commission or an Agreement State or to the United States Department of Energy;

(3) by decay in storage as authorized by law;

(4) by release in effluents within the limits specified in §336.313 of this title (relating to Dose Limits for Individual Members of the Public);

(5) as authorized under §336.213 of this title (relating to Method of Obtaining Approval of Proposed Disposal Procedures);

(6) as authorized under §336.215 of this title (relating to Disposal by Release into Sanitary Sewerage);

(7) as authorized under §336.225 of this title (relating to Disposal of Specific Wastes);

or

(8) as specifically authorized by commission license issued under this chapter.

(b) A person must be specifically licensed to receive waste containing licensed material from other persons for:

(1) treatment prior to disposal;

(2) treatment by incineration;

(3) decay in storage; or

(4) disposal at a land disposal facility.

(c) The processing and storage of radioactive material is subject to applicable rules of the Texas Department of Health (TDH), except as provided in subsection (d) of this section.

(d) The receipt, storage, and/or processing of radioactive materials, except for byproduct material under the jurisdiction of the TDH and oil and gas naturally occurring radioactive material waste, received at a licensed commercial radioactive material disposal facility for the explicit purpose of disposal at that facility shall be regulated in accordance with 25 TAC §289.101(d)(1) (relating to Memorandum of Understanding Between the Texas Department of Health and the Texas Natural Resource Conservation Commission Regarding Radiation Control Functions).

(e) The on-site disposal of low-level radioactive waste is prohibited, except as provided by this section. The commission shall, on request or its own initiative, authorize on-site disposal of low-level radioactive waste on a specific basis at any facility at which licensed low-level radioactive waste disposal operations began before September 1, 1989, if, after evaluation of the specific characteristics of the waste, the disposal site, and the method of disposal, the commission finds that the continuation of the disposal activity will not constitute a significant risk to public health and safety and to the environment. Persons subject to this subsection shall be licensed under Subchapter F of this chapter (relating to Licensing of Alternative Methods of Disposal of Radioactive Material).

(f) The disposal of low-level radioactive waste received from other persons is prohibited, except by a public entity that is specifically licensed under Subchapter H of this chapter.

**§336.213. Method of Obtaining Approval of Proposed Disposal Procedures.**

(a) A person who plans to dispose of radioactive material shall submit an application for a license according to Chapter 305 of this title (relating to Consolidated Permits) and the applicable subchapter in this chapter.

(b) A person holding a license issued under this chapter shall request changes to the license by requesting a license amendment, according to Chapter 305, Subchapter D of this title (relating to Amendments, Renewals, Transfers, Corrections, Revocation, and Suspension of Permits).

(c) If this chapter does not specifically authorize a proposed disposal procedure, a person shall file an application for a license or license amendment under Subchapter F of this chapter (relating to Licensing of Alternative Methods of Disposal of Radioactive Material) for approval of on-site disposal of radioactive material generated in the person's activities.

**§336.215. Disposal by Release into Sanitary Sewerage.**

A licensee may discharge licensed material into sanitary sewerage if each of the following conditions is satisfied:

(1) the material is readily soluble in water, or is readily dispersible biological material;

(2) the quantity of licensed or other radioactive material that the licensee releases into the sewer in one month divided by the average monthly volume of water released into the sewer by the licensee does not exceed the concentration listed in Table III of §336.359 of this title (relating to Appendix B, Annual Limits on Intake (ALI) and Derived Air Concentrations (DAC) of Radionuclides for Occupational Exposure; Effluent Concentrations; Concentrations for Release to Sanitary Sewerage);

(3) if more than one radionuclide is released, the licensee shall determine the fraction of the limit in Table III of §336.359 of this title represented by discharges into sanitary sewerage by dividing the actual monthly average concentration of each radionuclide released by the licensee into the sewer by the concentration of that radionuclide listed in Table III of §336.359 of this title; the sum of the fractions for all of the radionuclides released shall not exceed one; and

(4) the total quantity of licensed and other radioactive material that the licensee releases into the sanitary sewerage in a year does not exceed five curies (185 gigabecquerels) of hydrogen-3, one curie (37 gigabecquerels) of carbon-14, and one curie (37 gigabecquerels) of all other radioactive materials combined.

**§336.217. Disposal by Burial in Soil.**

No licensee shall dispose of radioactive material by burial in soil except as provided by:

(1) §336.225 of this title (relating to Disposal of Specific Wastes);

(2) specific license issued under the applicable subchapter of this chapter; or

(3) an exemption issued under §336.5(a) of this title (relating to Exemptions).

**§336.219. Disposal by Release into Septic Tanks.**

No licensee shall discharge radioactive material into a septic tank system except by specific license issued by the commission under Subchapter F of this chapter (relating to Alternative Methods of Disposal of Radioactive Material).

**§336.221. Treatment or Disposal by Incineration.**

(a) Treatment of radioactive material by incineration, except in a form and concentration specified by §336.225 of this title (relating to Disposal of Specific Wastes), shall be subject to applicable rules of the Texas Department of Health.

(b) Ash residue waste containing radioactive material shall be disposed of in accordance with §336.211 of this title (relating to General Requirements for Radioactive Material Waste Disposal).

**§336.223. Disposal in Underground Injection Control Class I injection wells.**

A person shall dispose of radioactive material by injection, only into an underground injection control Class I injection well that is:

(1) permitted under Chapter 331 of this title (relating to Underground Injection Control); and

(2) specifically licensed under this chapter for radioactive material waste disposal.

**§336.225. Disposal of Specific Wastes.**

(a) A licensee may dispose of the following licensed material as if it were not radioactive:

(1) 0.05 microcurie (1.85 kilobecquerels), or less, of hydrogen-3, carbon-14, or iodine-125 per gram of medium used for liquid scintillation counting or in vitro clinical or in vitro laboratory testing; and

(2) 0.05 microcurie (1.85 kilobecquerels), or less, of hydrogen-3, carbon-14, or iodine-125 per gram of animal tissue, averaged over the weight of the entire animal.

(b) A licensee shall not dispose of tissue under subsection (a)(2) of this section in a manner that would permit its use either as food for humans or as animal feed.

(c) A licensee may, upon commission approval under subsection (d) of this section, dispose of licensed material listed in §336.365 of this title (relating to Appendix H.Radionuclide Concentration and Annual Activity Limits for Disposal in a Type I Municipal Solid Waste Facility or a Hazardous Waste Facility), provided that the licensed material does not exceed the specified concentration and annual activity limits, in a Type I municipal solid waste facility as defined in the commission's rules in Chapter 330 of this title (relating to Municipal Solid Waste), unless the licensed material is hazardous waste, or is combined with hazardous waste, as defined in Chapter 330 of this title. Licensed material listed in §336.365 of this title which does not exceed the specified concentration and annual activity limits and which is hazardous waste, or is combined with hazardous waste, shall be disposed of at a hazardous waste disposal facility in accordance with the commission's rules in Chapter 335 of this title (relating to Industrial Solid Waste and Municipal Hazardous Waste). Disposals at a Type I municipal solid waste facility or a hazardous waste disposal facility must comply with other requirements for those facilities as set forth in Chapters 330 or 335 of this title, respectively.

(d) A licensee shall apply for commission authorization, by license amendment, for the disposal of licensed material under subsection (c) of this section by submitting procedures for the following to the agency:

- (1) physical delivery of the material to the disposal facility;
- (2) surveys to be performed for compliance with subsection (e)(1) of this section;
- (3) maintaining secure packaging during transportation to the site; and

(4) maintaining records of any disposals made under this subsection.

(e) Each licensee who disposes of licensed material under subsections (a)-(d) of this section shall:

(1) make surveys adequate to assure that the limits specified in subsection (a) or (c) of this section are not exceeded; and

(2) remove or otherwise obliterate or obscure all labels, tags, or other markings which would indicate that the material or contents is radioactive.

(f) Each licensee who disposes of licensed material under subsections (a)-(d) of this section shall maintain records in accordance with §336.338 of this title (relating to General Recordkeeping Requirements for Disposal).

(g) Material disposed of under this section is exempt from the requirements of §336.332 of this title (relating to Preparation of Radioactive Material for Transport).

**§336.229. Prohibition of Dilution.**

No person shall reduce the concentration of radioactive constituents by dilution to meet exemption levels established under the Texas Health and Safety Code, Chapter 401, §401.106, or change the waste's classification or disposal requirements. Radioactive material that has been diluted as

a result of stabilization, mixing, or treatment, including, but not limited to, Resource Conservation and Recovery Act (RCRA) Land Disposal Restrictions (LDR) treatment, or for any other reason, shall be subject to the disposal regulations it would have been subject to prior to dilution.

**SUBCHAPTER D: STANDARDS FOR PROTECTION AGAINST RADIATION**

**§§336.301, 336.308, 336.313, 336.331, 336.332, 336.335, 336.336, 336.338, 336.339, 336.341,  
336.352, 336.355**

**STATUTORY AUTHORITY**

The amendments and new sections are proposed under the Texas Radiation Control Act; THSC, §§401.011, 401.051, 401.057, 401.101, 401.103(b) and (c), 401.104(b)-(e), 401.106(b) and (c), 401.201-401.203, 401.303, 401.412, and 401.413; Texas Government Code, §2001.004(1); and Texas Water Code, §5.103.

These amendments and new sections implement THSC, Chapter 401, relating to Radioactive Materials and Other Sources of Radiation.

**§336.301. Purpose and Scope.**

(a) This subchapter establishes standards for protection against ionizing radiation resulting from activities conducted under licenses issued by the commission and establishes minimum standards for all persons who dispose of radioactive materials.

(b)-(c) (No change.)

(d) Nothing in this subchapter relieves the licensee from complying with other applicable federal, state, and local regulations governing any other toxic or hazardous properties of materials that shall be disposed of under the rules in this chapter.

**§336.308. Determination of Internal Exposure.**

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

(d) If the licensee chooses to assess intakes of Class Y material using the measurements given in subsection (a)(2) or (3) of this section, the licensee shall delay the recording and reporting of the assessments for periods up to seven [7] months, unless otherwise required by §336.335 of this title (relating to Reporting Requirements for Incidents) [§336.351 of this title (relating to Notification of Incidents)] or §336.352 of this title (relating to Reports of Exposures, Radiation Levels, and Concentrations of Radioactive Material Exceeding the Limits). This delay permits the licensee to make additional measurements basic to the assessments.

(e)-(h) (No change.)

**§336.313. Dose Limits for Individual Members of the Public.**

(a) Each licensee shall conduct operations so that:

(1) The total effective dose equivalent to individual members of the public from the licensed operation does not exceed 0.1 rem (one [1] millisievert) in a year, exclusive of the dose contribution from the licensee's disposal of radioactive material into sanitary sewerage in accordance with §336.215 [§336.333] of this title (relating to Disposal by Release into Sanitary Sewerage); and

(2) The dose in any unrestricted area from external sources does not exceed 0.002 rem (0.02 millisievert) in any one [1] hour.

(b) (No change.)

(c) A licensee or an applicant for a license shall apply for prior commission authorization to operate up to an annual dose limit for an individual member of the public of 0.5 rem (five [5] millisieverts). The licensee or applicant shall include the following information in this application:

(1) (No change.)

(2) the licensee's or applicant's program to assess and control dose within the 0.5 rem (five [5] millisieverts) annual limit; and

(3) (No change.)

(d) In addition to the requirements of this chapter, a licensee shall also be subject to the provisions of the EPA's [United States Environmental Protection Agency's] generally applicable

environmental radiation standards in 40 Code of Federal Regulations [CFR] Part 190 (Environmental Radiation Protection Standards for Nuclear Power Operations).

(e) (No change.)

**§336.331. Transfer of Radioactive Material.**

(a) The licensee shall not transfer source material, byproduct material, or other licensed radioactive material except as authorized under the rules in this subchapter.

(b) Except as otherwise provided in the license and subject to the provisions of subsections (c) and (d) of this section, a licensee shall transfer source material, byproduct material, or other licensed radioactive material:

(1) to the agency (A licensee shall transfer material to the agency only after receiving prior approval from the agency. If the material to be transferred is special nuclear material, the quantity must not be sufficient to form a critical mass.);

(2) to the United States Department of Energy;

(3) to any person exempt from licensing requirements by the Texas Department of Health (TDH) under the Texas Health and Safety Code, §401.106(a), the rules in this chapter, or

exempt from the licensing requirements of the United States Nuclear Regulatory Commission (NRC) or an Agreement State, to the extent permitted by those exemptions;

(4) to any person authorized to receive this material under terms of a specific or a general license or its equivalent issued by the commission, TDH, NRC, or any Agreement State, or to any person authorized to receive this material by the federal government; or

(5) as otherwise authorized by the commission in writing by TDH, any Agreement State, or the federal government.

(c) Before transferring source material, byproduct material, or other radioactive material to a specific licensee of the commission, TDH, NRC, or an Agreement State or to a general licensee who is required to register with TDH, NRC, or an Agreement State prior to receipt of the source material, byproduct material, or other radioactive material, the licensee transferring the material shall verify that the transferee's license authorizes the receipt of the type, form, and quantity of radioactive material to be transferred.

(d) The following methods for the verification required by subsection (c) of this section are acceptable.

(1) The transferor shall possess and have read a current copy of the transferee's specific license or certificate of registration.

(2) The transferor may possess a written certification by the transferee that the transferee is authorized by the license or certificate of registration to receive the type, form, and quantity of radioactive material to be transferred, specifying the license or certificate of registration number, issuing agency, and expiration date.

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

(4) The transferor may obtain other sources of information compiled by a reporting service from official records of the commission, TDH, NRC, or an Agreement State as to the identity of licensees and registrants and the scope and expiration dates of licenses and registrations.

(5) When none of the methods of verification described in paragraphs (1)-(4) of this subsection are readily available or when a transferor desires to verify that information received by one of these methods is correct or up-to-date, the transferor may obtain and record confirmation from the commission, TDH, NRC, or an Agreement State that the transferee is licensed to receive the source material, byproduct material, or other radioactive material.

(e) Transportation of radioactive material shall also be subject to applicable rules of the United States Department of Transportation, United States Postal Service, NRC, or TDH.

(f) The licensee shall keep records showing the transfer of any source material, byproduct material, or other radioactive material.

(g) Transfer of low-level radioactive waste by a waste generator, waste collector, or waste processor who ships this waste either directly, or indirectly through a collector or processor, to a licensed land disposal facility shall also be subject to applicable rules of TDH. A commission licensee who transfers low-level radioactive waste for disposal at a licensed land disposal facility shall also be subject to applicable rules of TDH with respect to transfers.

(h) A licensed land disposal facility operator shall use and comply with the requirements of §336.363 of this title (relating to Appendix F. Requirements for Receipt of Low-Level Radioactive Waste for Disposal at Licensed Land Disposal Facilities and Uniform Manifests).

**§366.332. Preparation of Radioactive Material for Transport.**

(a) No licensee shall deliver any source material, byproduct material, or other licensed radioactive material to a carrier for transport, unless:

(1) the licensee complies with the applicable requirements of the rules, appropriate to the mode of transport, of the United States Department of Transportation insofar as those rules relate to the packing of radioactive material and to the monitoring, marking, and labeling of those packages or containers;

(2) the licensee establishes procedures for opening and closing packages and containers in which radioactive material is transported to provide safety and to assure that, prior to the delivery to a carrier for transport, each package or container is properly closed for transport; and

(3) the licensee assures that any special instructions needed to safely open the package or container are sent to or have been made available to the consignee prior to delivery of a package or container to a carrier for transport.

(b) For the purpose of subsection (a) of this section, licensees who transport their own licensed material as private carriers are considered to have delivered the material to a carrier for transport.

**§336.335. Reporting Requirements for Incidents.**

(a) Immediate notification. Each licensee shall notify the executive director as soon as possible, but not later than four hours after the discovery of an event that prevents immediate protective actions necessary to avoid exposures to radiation or radioactive materials that could exceed regulatory limits or releases of radioactive materials that could exceed limits (e.g., events shall include fires, explosions, toxic gas releases, etc.). Notwithstanding any other requirements for notification, each licensee shall immediately report to the executive director each event involving licensed radioactive material possessed by the licensee that shall have caused or threatens to cause any of the following conditions:

(1) an individual to receive:

(A) a total effective dose equivalent of 25 rems (0.25 sievert) or more;

(B) an eye dose equivalent of 75 rems (0.75 sievert) or more; or

(C) a shallow-dose equivalent to the skin or extremities or a total organ dose equivalent of 250 rads (2.5 grays) or more; or

(2) the release of radioactive material inside or outside of a restricted area so that, had an individual been present for 24 hours, the individual could have received an intake five times the annual limit on intake (ALI). This provision does not apply to locations where personnel are not normally stationed during routine operations, such as hot-cells or process enclosures.

(b) Twenty-four hour notification. Each licensee shall, within 24 hours of discovery of the event, report to the executive director any event involving loss of control of licensed material possessed by the licensee that shall have caused, or threatens to cause, any of the following conditions:

(1) an individual to receive, in a period of 24 hours:

(A) total effective dose equivalent exceeding five rems (0.05 sievert);

(B) an eye dose equivalent exceeding 15 rems (0.15 sievert); or

(C) a shallow-dose equivalent to the skin or extremities or a total organ dose equivalent exceeding 50 rems (0.5 sievert); or

(2) the release of radioactive material inside or outside of a restricted area so that, had an individual been present for 24 hours, the individual could have received an intake in excess of one ALI. This provision does not apply to locations where personnel are not normally stationed during routine operations, such as hot-cells or process enclosures; or

(3) an unplanned contamination event that:

(A) requires access to the contaminated area, by workers or the public, to be restricted for more than 24 hours by imposing additional radiological controls or by prohibiting entry into the area;

(B) involves a quantity of material greater than five times the lowest annual limit on intake specified in §336.359 of this title (relating to Appendix B. Annual Limits on Intake (ALI) and Derived Air Concentrations (DAC) of Radionuclides for Occupational Exposure; Effluent Concentrations; Concentrations for Release to Sanitary Sewerage); and

(C) has access to the area restricted for a reason other than to allow isotopes with a half-life of less than 24 hours to decay prior to decontamination; or

(4) an event in which equipment is disabled or fails to function as designed when:

(A) the equipment is required by rule or license condition to prevent releases exceeding regulatory limits, to prevent exposures to radiation and radioactive materials exceeding regulatory limits, or to mitigate the consequences of an accident;

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

(C) no redundant equipment is available and operable to perform the required safety function; or

(5) an event that requires unplanned medical treatment at a medical facility of an individual with spreadable radioactive contamination on the individual's clothing or body; or

(6) an unplanned fire or explosion damaging any radioactive material or any device, container, or equipment containing radioactive material when:

(A) the quantity of material involved is greater than five times the lowest annual limit on intake specified in §336.359 of this title; and

(B) the damage affects the integrity of the radioactive material or its container.

(c) Preparation and submission of reports. Reports made by licensees in response to the requirements of this section must be made as follows.

(1) Telephone report. Licensees shall make reports required by subsections (a) and (b) of this section by telephone, accompanied by a facsimile, to the executive director. To the extent that the information is available at the time of notification, the information provided in these reports must include:

(A) the caller's name and telephone number;

(B) a description of the event, including date and time;

(C) the exact location of the event;

(D) the isotopes, quantities, and chemical and physical form of the radioactive material involved; and

(E) any personnel radiation exposure data available.

(2) Written report. Each licensee who makes a report required by subsections (a) and (b) of this section shall submit a written follow-up report to the executive director within 30 days of the initial report. Written reports prepared under other regulations shall be submitted to fulfill this requirement if the reports contain all of the necessary information. These written reports must be sent to the executive director. The reports must include:

(A) a description of the event, including the probable cause and the manufacturer and model number (if applicable) of any equipment that failed or malfunctioned;

(B) the exact location of the event;

(C) the isotopes, quantities, and chemical and physical form of the radioactive material involved;

(D) date and time of the event;

(E) corrective actions taken or planned and the results of any evaluations or assessments; and

(F) the extent of exposure of individuals to radiation or to radioactive materials. The licensee shall prepare the report so that names of individuals are stated in a separate and detachable part of the report.

(d) Confirmation of notification. Licensees shall make the reports required by subsections (a) and (b) of this section by telephone and shall confirm the telephone report within 24 hours by telegram, mailgram, or facsimile.

(e) Exception to notification. The provisions of this section do not apply to doses that result from planned special exposures, provided those doses are within the limits for planned special

exposures and are reported under §336.353 of this title (relating to Reports of Planned Special Exposures).

**§336.336. Tests.**

(a) Each licensee shall perform, upon instructions from the executive director, or shall permit the executive director to perform such tests as the executive director deems appropriate or necessary for the administration of the rules in this chapter including, but not limited to, tests of:

(1) source material, byproduct material, or other licensed radioactive material;

(2) facilities where these materials are used, stored, or disposed;

(3) radiation detection and monitoring instruments; and

(4) other equipment and devices used in connection with utilization, storage, or disposal of source material, byproduct material, or other licensed radioactive material.

(b) The requirements of this section do not apply to licenses issued under Subchapter H of this chapter (relating to Licensing Requirements for Near-Surface Land Disposal of Low-Level Radioactive Waste).

**§336.338. General Recordkeeping Requirements for Disposal.**

(a) Each person who possesses or uses a source of radiation shall maintain:

(1) records of the disposal of sources of radiation, including special wastes and transferred wastes, by incineration, by sanitary sewerage, by any alternate method of disposal, or by burial in soil including burials authorized under the Atomic Energy Act by the Atomic Energy Commission or the United States Nuclear Regulatory Commission and by the Texas Department of Health rules before May 1977;

(2) appropriate records that show the radiation exposure of each individual for whom personnel monitoring is required by the agency's rules, licenses, registrations, and orders; and

(3) other records the agency requires.

(b) Copies of records required to be maintained under subsection (a) of this section shall be submitted to the agency on request.

(c) A person who possesses or uses a source of radiation shall furnish to each employee for whom personnel monitoring is required a copy of the employee's personal exposure record at any time the employee has received exposure that exceeds the maximum permissible levels provided by the agency's rules and on termination of employment. The person shall furnish to an employee on request a copy of the employee's annual exposure record.

**§336.339. Form of Records.**

Each record required by this subchapter shall be legible throughout the specified retention period. The record shall be the original or a reproduced copy or a microform, provided that the copy or microform is authenticated by authorized personnel and that the microform is capable of producing a clear copy throughout the required retention period. The record may also be stored in electronic media with the capability for producing legible, accurate, and complete records during the required retention period. Records, such as letters, drawings, and specifications, shall include all pertinent information, such as stamps, initials, and signatures. The licensee shall maintain adequate safeguards against tampering with and loss of records.

**§336.341. General Recordkeeping Requirements for Licensees [Recordkeeping].**

(a) (No change.)

(b) Notwithstanding the requirements of subsection (a) of this section, information on shipment manifests for wastes received at a licensed land disposal facility, as required by §336.331(h) [§336.338(b)] of this title (relating to Transfer of Radioactive Material) [(relating to Transfer for Disposal at Licensed Land Disposal Facility and Manifests)], shall be recorded in International System of Units (SI) units (becquerel, gray, and sievert) or in SI and units as specified in subsection (a) of this section.

(c) (No change.)

(d) Each licensee shall maintain records showing the receipt, transfer, and disposal of all source material, byproduct material, or other licensed radioactive material. Each licensee shall also maintain any records and make any reports as shall be required by the conditions of the license, by the rules in this chapter, or by orders of the commission. Copies of any records or reports required by the license, rules, or orders shall be submitted to the executive director or commission on request. All records and reports required by the license, rules, or orders shall be complete and accurate.

(e) The licensee shall retain each record that is required by the rules in this chapter or by license conditions for the period specified by the appropriate rule or license condition. If a retention period is not otherwise specified, each record shall be maintained until the commission terminates each pertinent license requiring the record.

(f) If there is a conflict between the commission's rules, license condition, or other written approval or authorization from the executive director pertaining to the retention period for the same type of record, the longest retention period specified takes precedence.

(g) The executive director may require the licensee to provide the commission with copies of all records prior to termination of the license.

**§336.352. Reports of Exposures, Radiation Levels, and Concentrations of Radioactive Material Exceeding the Limits.**

(a) Reportable events. In addition to the notification required by §336.335 of this title (relating to Reporting Requirements for Incidents) [§336.351 of this title (relating to Notification of Incidents)], each licensee shall submit a written report to the executive director within 30 days after learning of any of the following occurrences:

(1) any incident for which notification is required by §336.335 [§336.351] of this title;

or

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

(b) (No change.)

**§336.355. Reports of Individual Monitoring.**

(a) Each person licensed by the commission to receive low-level radioactive waste from other persons for disposal under Subchapter H of this chapter (relating to Licensing Requirements for Near-Surface Land Disposal of Low-Level Radioactive Waste) shall submit an annual report of the results of individual monitoring carried out by the licensee for each individual for whom monitoring was required by §336.316 of this title (relating to Conditions Requiring Individual Monitoring of External and Internal Occupational Dose) during that year. The licensee may include additional data for individuals

for whom monitoring was provided but not required. The licensee may use the form "Occupational Exposure Record for a Monitoring Period" (see §336.368 of this title (relating to Appendix K. Occupational Exposure Record for a Monitoring Period)) or a clear and legible record containing all the information required by that form.

(b) (No change.)

**SUBCHAPTER D: STANDARDS FOR PROTECTION AGAINST RADIATION**

**§§336.331 - 336.340, 336.348, 336.349, 336.351, 336.361**

**STATUTORY AUTHORITY**

The repeals are proposed under the Texas Radiation Control Act; THSC, §§401.011, 401.051, 401.057, 401.101, 401.103(b) and (c), 401.104(b)-(e), 401.106(b) and (c), 401.201-401.203, 401.303, 401.412, and 401.413; Texas Government Code, §2001.004(1); and Texas Water Code, §5.103.

These repeals implement THSC, Chapter 401, relating to Radioactive Materials and Other Sources of Radiation.

**§336.331. General Requirements for Waste Disposal.**

**§336.332. Method of Obtaining Approval of Proposed Disposal Procedures.**

**§336.333. Disposal by Release into Sanitary Sewerage.**

**§336.334. Disposal by Burial in Soil.**

**§336.335. Disposal by Release into Septic Tanks.**

**§336.336. Treatment or Disposal by Incineration.**

**§336.337. Disposal of Specific Wastes.**

**§336.338. Transfer for Disposal at Licensed Land Disposal Facility and Manifests.**

**§336.339. Texas Department of Health Inspection and Regulation of Shipments of Radioactive Waste.**

**§336.340. Compliance with Environmental and Health Protection Regulations.**

**§336.348. Records of Waste Disposal.**

**§336.349. Form of Records.**

**§336.351. Notification of Incidents.**

**§336.361. Appendix D. Requirements for Receipt of Low-Level Radioactive Waste for Disposal at Licensed Land Disposal Facilities and Manifests.**

**SUBCHAPTER E: NOTICES, INSTRUCTIONS, AND REPORTS  
TO WORKERS AND INSPECTIONS**

**§336.405**

**STATUTORY AUTHORITY**

The amendment is proposed under the Texas Radiation Control Act; THSC, §§401.011, 401.051, 401.057, 401.101, 401.103(b) and (c), 401.104(b)-(e), 401.106(b) and (c), 401.201-401.203, 401.303, 401.412, and 401.413; Texas Government Code, §2001.004(1); and Texas Water Code, §5.103.

The amendment implements THSC, Chapter 401, relating to Radioactive Materials and Other Sources of Radiation.

**§336.405. Notifications and Reports to Individuals.**

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

(d) When a licensee is required under §336.335 of this title (relating to Reporting Requirements for Incidents) [§336.351 of this title (relating to Notification of Incidents)], §336.352 of this title (relating to Reports of Exposures, Radiation Levels, and Concentrations of Radioactive Material Exceeding the Limits), §336.353 of this title (relating to Reports of Planned Special Exposures), or §336.355 of this title (relating to Reports of Individual Monitoring) to report to the executive director any exposure of an individual to radiation or radioactive material, the licensee shall

also provide the individual a report of that individual's exposure data. This report must be transmitted at a time not later than the transmittal to the executive director.

(e) (No change.)

**SUBCHAPTER F: LICENSING OF ALTERNATIVE METHODS OF DISPOSAL OF  
RADIOACTIVE MATERIAL**

**§336.501, §336.513**

**STATUTORY AUTHORITY**

The amendment and new section is proposed under the Texas Radiation Control Act; THSC, §§401.011, 401.051, 401.057, 401.101, 401.103(b) and (c), 401.104(b)-(e), 401.106(b) and (c), 401.201-401.203, 401.303, 401.412, and 401.413; Texas Government Code, §2001.004(1); and Texas Water Code, §5.103.

The amendment and new section implement THSC, Chapter 401, relating to Radioactive Materials and Other Sources of Radiation.

**§336.501. Scope and General Provisions.**

(a) This subchapter establishes alternative criteria, terms, and conditions under which the commission shall issue, amend, or renew a license for on-site disposal of radioactive material generated in the person's activities, not otherwise specifically authorized in this chapter.

(b) Except as provided by this subsection, the commission shall not authorize new or additional facilities or the expansion of existing facilities for the on-site disposal of low-level radioactive waste, except to a public entity specifically authorized by law for low-level radioactive waste disposal. The commission shall, on request or its own initiative, authorize, under this subchapter, on-site disposal of

low-level radioactive waste on a specific basis at any facility at which low-level radioactive waste disposal operations began before September 1, 1989, if after evaluation of the specific characteristics of the waste, the disposal site, and the method of disposal, the commission finds that the continuation of the disposal activity will not constitute a significant risk to the public health and safety and to the environment.

(c) No person authorized to dispose of radioactive material under this subchapter shall receive radioactive material for the purpose of disposal from other persons, sources, other facilities owned or operated by the applicant or licensee, or any other off-site locations.

**§336.513. Technical Requirements for Active Disposal Sites.**

(a) Content of license application. An applicant for a license to authorize disposal of radioactive material shall submit the information required in Chapter 305 of this title (relating to Consolidated Permits) and the following:

[(1) the information required by §336.332 of this title (relating to Method of Obtaining Approval of Proposed Disposal Procedures). This information shall include the applicant's evaluation of relevant information which demonstrates that the disposal site has no undue impact on public health or safety or the environment;]

(1) [(2)] an inventory of radionuclides in the wastes to be disposed of and the concentration and total activity of each radionuclide;

(2) [(3)] the estimated frequency of burials and estimated volume of waste in each burial;

(3) [(4)] a description of waste packaging;

(4) [(5)] a description of nonradiological constituents in the waste (e.g., hazardous wastes, heavy metals, absorbents, and chelating agents);

[(6) a map of the proposed disposal location, which also shows the applicant's property boundaries and locations of nearby residences, water wells, surface water, previous waste burial sites, etc.;]

(5) [(7)] site characterization, including:

(A) the identification of all soil layers by classification according to American Society for Testing and Materials (ASTM) methods (e.g., sand, gravel, silt, and clay), soil engineering properties, and infiltration and drainage characteristics (e.g., coefficient of permeability according to ASTM D5084);

(B) stratigraphy (geological identification) of the near-surface subsoils;

(C) geologic hazards, including faulting, seismic activity, sink holes, solution depressions, and flooding, including identification of the 100-year floodplain;

- (D) hydrological data, including porosity, distribution coefficient, hydraulic conductivity, soils dispersivity, and hydraulic gradient;
- (E) groundwater, including use, depth to aquifer, fluctuation, discharge location, and saturated thickness;
- (F) water wells in the vicinity, including location, use, depth, and water level;
- (G) surface drainages and bodies of water in the vicinity, including locations and use;
- (H) meteorological data;
- (I) maps, including United States Geological Survey topographic quadrangle, hydrologic, and geologic;
- (J) area resources (e.g., local land use, locations of nearby residences, etc.);
- (K) site performance history, including erosion, flooding, subsidence, etc.; and
- (L) a summary of any past disposals and any observed effects;

(6) [(8)] a description of the proposed design and construction of the waste disposal trench or landfill;

(7) [(9)] a description of the proposed design and construction of the final cover and of proposed closure procedures;

(8) [(10)] information on the depth of waste burial and proposed procedures for emplacement of waste;

(9) [(11)] proposed inspection, maintenance, and stabilization procedures;

(10) [(12)] the applicant's radiological impact assessment consisting of modeling of radionuclide releases to site-specific critical exposure pathways and the projection of potential radiological doses to an individual on site and to a member of the public off site;

(11) [(13)] proposed radiation safety procedures during operations and closure;

(12) [(14)] a description of proposed radiological monitoring of the site;

(13) [(15)] the organizational structure of the applicant, a description of lines of authority and assignment of responsibilities, and technical qualifications of personnel responsible for radiation safety functions;

(14) [(16)] information on the applicant's proposed methods of restricting access to the site (e.g., fencing) and proposed permanent site markers;

(15) [(17)] proposed recordkeeping;

(16) [(18)] information on land ownership and any covenants or restrictions on land use;

(17) [(19)] the applicant's justification for the proposed disposal method;

(18) [(20)] an evaluation of other disposal alternatives, including disposal of the radioactive material at a licensed disposal facility; and

(19) [(21)] financial assurance for decommissioning as provided for in §336.619 [§336.514] of this title (relating to Financial Assurance for Decommissioning).

(b) Content of application for renewal of license.

(1) An applicant for renewal of a license authorizing disposal of radioactive material shall submit information on:

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

(H) financial assurance for decommissioning as provided for in §336.619  
[§336.514] of this title [(relating to Financial Assurance for Decommissioning)]; and

(I) (No change.)

(2) (No change.)

(c) (No change.)

**SUBCHAPTER F: LICENSING OF ALTERNATIVE METHODS OF DISPOSAL OF  
RADIOACTIVE MATERIAL**

**§§336.501-336.505, 336.512, 336.514, 336.515, 336.517, 336.519, 336.521**

**STATUTORY AUTHORITY**

The repeals are proposed under the Texas Radiation Control Act; THSC, §§401.011, 401.051, 401.057, 401.101, 401.103(b) and (c), 401.104(b)-(e), 401.106(b) and (c), 401.201-401.203, 401.303, 401.412, and 401.413; Texas Government Code, §2001.004(1); and Texas Water Code, §5.103.

These repeals implement THSC, Chapter 401, relating to Radioactive Materials and Other Sources of Radiation.

**§336.501. Scope and General Provisions**

**§336.502. Definitions.**

**§336.503. Filing of Application.**

**§336.504. General Requirements for Issuance of a License.**

**§336.505. Issuance of License.**

**§336.512. Technical Requirements for Inactive Disposal Sites.**

**§336.514. Financial Assurance for Decommissioning.**

**§336.515. Recordkeeping for Decommissioning.**

**§336.517. Financial Assurance for Control and Maintenance.**

**§336.519. Expiration and Termination of Licenses.**

**§336.521. Appendix A. Radionuclide Quantities for Use in Determining Financial Assurance for Decommissioning.**

**SUBCHAPTER G : DECOMMISSIONING STANDARDS**

**§§336.601, 336.602, 336.607, 336.613, 336.615, 336.617, 336.619, 336.621, 336.623, 336.625,  
336.627**

**STATUTORY AUTHORITY**

The amendments and new sections are proposed under the Texas Radiation Control Act; THSC, §§401.011, 401.051, 401.057, 401.101, 401.103(b) and (c), 401.104(b)-(e), 401.106(b) and (c), 401.201-401.203, 401.303, 401.412, and 401.413; Texas Government Code, §2001.004(1); and Texas Water Code, §5.103.

These amendments and new sections implement THSC, Chapter 401, relating to Radioactive Materials and Other Sources of Radiation.

**§336.601. Applicability.**

(a) The criteria in this subchapter apply to the decommissioning of facilities regulated under Subchapter F of this chapter (relating to Licensing of Alternative Methods of Disposal of Radioactive Material), the inactive disposal sites regulated under this subchapter, and to the ancillary surface facilities that support low-level radioactive waste disposal activities at facilities licensed under Subchapter H of this chapter (relating to Licensing Requirements for Near-surface Land Disposal of Low-Level Radioactive Waste).

(b) This subchapter also establishes the criteria under which a facility may be licensed for decommissioning. [Licensees who have submitted a decommissioning plan to the commission and have received commission approval of the plan before the effective date of these criteria may decommission according to the regulations in place at the time of filing of the plan or according to these criteria.]

(c)-(d) (No change.)

**§336.602. Definitions.**

General agency terms used in several chapters are defined in Chapter 3 of this title (relating to Definitions). Terms used in this chapter are defined in §336.2 of this title (relating to Definitions). Additional terms used in this subchapter have the following definitions.

(1) **Control and maintenance** - Only for licenses that have been terminated under restricted conditions, control and maintenance is the period of time, and the activities that occur within that period of time, that begins upon license termination and continues until the level of contamination at the site reaches the level required under §336.603(a) of this title (relating to Radiological Criteria for Unrestricted Use) for unrestricted use without institutional controls.

(2) **Inactive disposal site** - A site or facility that:

(A) contains radioactive material disposed of below the surface, or soils or structures contaminated with radioactive material; and

(B) no longer disposes or will dispose of, or accepts or will accept for the purpose of disposal, additional radioactive material.

**(3) Institutional control - Restrictions placed upon a facility or site that are:**

(A) proprietary institutional controls which are put in place by the property owner, such as deed restrictions;

(B) governmental institutional controls, which are based on a government's sovereign or police powers, such as zoning, water well-use restrictions, and building permit requirements; and

(C) physical controls such as fences, markers, earthen covers, and radiological monitoring and maintenance for those controls. Physical controls must be used in combination with some type of legal instrument.

**(4) Funding plan - A plan, equivalent to the decommissioning funding plan of 10 Code of Federal Regulations §30.35 (Financial Assurance and Recordkeeping for Decommissioning) and §40.36 (Financial Assurance and Recordkeeping for Decommissioning), submitted by the holder of an existing license before the development of a detailed decommissioning plan. The funding plan includes:**

(A) an initial cost estimate for decommissioning;

(B) a description of the financial mechanism(s) utilized; and

(C) a certification by the licensee that a signed original of the financial assurance mechanism for decommissioning was submitted to the executive director.

**§336.607. Criteria for License Termination under Restricted Conditions.**

A site will be considered acceptable for license termination under restricted conditions if all of the following conditions are met:

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

(3) The licensee has provided sufficient financial assurance to enable an independent third party, including a governmental custodian of a site, to assume and carry out responsibilities for any necessary control and maintenance of the site. Acceptable financial assurance mechanisms are those in Chapter 37, Subchapter S of this title (relating to Financial Assurance for [Alternative Methods of Disposal of] Radioactive Material), or Chapter 37, Subchapter T of this title (relating to Financial Assurance for Near-Surface Land Disposal of Low-Level Radioactive Waste);

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

**§336.613. Additional Requirements.**

(a) The requirements of this section do not apply to licenses issued under Subchapter H of this chapter (relating to Licensing Requirements for Near-surface Land Disposal of Low-Level Radioactive Waste) [apply only to licenses issued under Subchapter F of this chapter (relating to Licensing of Alternative Methods of Disposal of Radioactive Material)].

(b) A decommissioning plan shall be submitted with the license application required by §336.615 of this title relating to (Inactive Disposal Sites) [§336.501(c) of this title (relating to Scope and General Provisions)]. Holders of licenses of inactive disposal sites shall submit a decommissioning plan with the renewal application. Holders of licenses of active disposal sites shall submit a decommissioning plan no later than the date specified in §336.625(e)(2) [§336.519(e)(2)] of this title (relating to Expiration and Termination of Licenses).

(c) The executive director shall approve an alternate schedule for submittal of a decommissioning plan required under §336.625(e)(2) [§336.519(e)(2)] of this title if the executive director determines that:

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

(d)-(1) (No change.)

**§336.615. Inactive Disposal Sites.**

Any person who owns, operates, controls, or possesses an inactive disposal site and who does not hold a current radioactive material license for the inactive disposal site shall apply for a license to decommission by January 1, 2000. This subchapter does not apply to diffuse naturally occurring radioactive material (NORM) waste having concentrations of radium-226 or radium-228 of less than 2,000 pCi/g. Any decommissioning performed to fulfill this provision shall be performed by an individual who is qualified and licensed to perform the activities, ensuring that all appropriate radiation protection standards for workers and the public are met, including the maintenance of records.

(1) If the site meets the requirements for unrestricted use of §336.603 of this title, (relating to Radiological Criteria for Unrestricted Use), the owner shall submit to the executive director the information required by §336.603(c) of this title before January 1, 2000. Once the executive director verifies that the criteria have been met, the executive director will certify in writing that the owner is in compliance with the regulations and will not require any further cleanup, unless there is new evidence that the decommissioning standards for unrestricted use were not met and that residual radioactivity remaining at the site could result in significant threat to public health and safety.

(2) If a site is decommissioned for unrestricted use under §336.603 of this title before January 1, 2000, a license is not required. If decommissioning is completed before January 1, 2000, proof of decommissioning must be submitted to the agency before January 1, 2000, or the owner shall submit an application for license by that date. Once the executive director verifies that the criteria have been met, the executive director will certify in writing that the owner is in compliance with the

regulations and will not require any further cleanup, unless there is new evidence that the decommissioning standards for unrestricted use were not met and that residual radioactivity remaining at the site could result in significant threat to public health and safety.

(3) If a site does not meet the requirements for unrestricted use and the owner does not decommission before January 1, 2000, or if the owner plans to decommission under §336.607 of this title (relating to Criteria for License Termination under Restricted Conditions) or §336.609 of this title (relating to Alternate Criteria for License Termination), the owner shall apply for a license to decommission by January 1, 2000. The applicant shall provide the information required by this subchapter using a form provided by the agency.

**§336.617. Technical Requirements for Inactive Disposal Sites.**

(a) An applicant for a license to authorize possession of disposed radioactive material and subsequent decommissioning of an inactive disposal site shall submit the information required in Chapter 305 of this title (relating to Consolidated Permits), and the following, using the application form provided by the agency:

(1) information on the concentration and total activity of each radionuclide disposed of, packaging of the wastes, the characteristics of the disposal site (e.g., geological, hydrological, and topographical), as-built disposal trench or landfill construction, final cover construction, and depth of burial of wastes. This information shall be as complete and accurate as possible based on the full extent of information available to the applicant about the previous disposal activities;

(2) a description of any radiological monitoring performed at the site and the resulting data;

(3) the technical qualifications and identity of personnel responsible for radiation safety functions at the site;

(4) a description of the methods of restricting access to the site (e.g., fencing) and any permanent site markers;

(5) information on land ownership and any covenants on land use imposed by recorded title documents;

(6) a decommissioning plan that meets the standards in this subchapter including an evaluation of the alternative of disposing of the radioactive material at a licensed disposal facility;

(7) information regarding financial assurance for decommissioning as provided for in §336.619 of this title (relating to Financial Assurance for Decommissioning); and

(8) for license applications other than renewals, a description of how facility design and procedures for operation minimize, to the extent practicable, contamination of the facility and the environment, facilitate eventual decommissioning, and minimize, to the extent practicable, the generation of radioactive wastes.

(b) Content of application for renewal of license.

(1) An applicant for renewal of a license authorizing possession of disposed radioactive material in an inactive disposal site or to decommission an inactive disposal site shall submit information using the application form provided by the agency on:

(A) the current conditions of the site (e.g., site stability and any maintenance performed at the site);

(B) any radiological monitoring performed at the site by the licensee and the resulting data;

(C) the methods of restricting access to the site;

(D) any changes in or additions to the procedures or information contained in previous applications;

(E) the technical qualifications and identity of personnel responsible for radiation safety functions at the site;

(F) a decommissioning plan that meets the standards in this subchapter, if not previously submitted, including an evaluation of the alternative of disposing of the radioactive material at a licensed disposal facility; and

(G) financial assurance for decommissioning as provided for in §336.619 of this title.

(2) The executive director may request additional information, such as that required by subsection (a) of this section, if this information was not previously provided for the site or is not current.

(c) The applicant's submittal shall include sufficient information to enable the executive director to assess the potential hazard to public health and safety and to determine whether the disposal site will have a significant impact on the environment. The executive director shall evaluate existing inactive disposal sites on a case-by-case basis and shall consider the following general criteria and performance objectives in making the evaluation.

(1) Radiation exposure and release of radioactive materials from a disposal site shall be maintained as low as is reasonably achievable. Reasonable assurance must be provided that the potential dose to an individual on or near the site will be within acceptable limits. The estimated committed effective dose equivalent resulting from a radiological assessment of a site will usually be the determining factor in the granting of authorization for a disposal site. If the projected dose to a member of the public exceeds 25 millirems per year, the executive director shall consider other factors in determining whether to grant authorization for the site, including, but not limited to, the use of institutional controls to restrict access for a specified period of time.

(2) The location and characteristics of a site shall be such as to preclude potential offsite migration or transport of radioactive materials or ready access to critical exposure pathways.

(3) The general topography of the disposal site shall be compatible with its use for waste burial. As an example, surface features shall direct surface water drainage away from the disposal site. Wastes must not be buried in locations which, once covered, would tend to collect surface water. The characteristics of the site shall minimize, to the extent practicable, the potential for erosion and contact of percolating or standing water with wastes.

(4) Water-bearing strata shall be a minimum of ten feet below the depth at which waste is buried.

(5) Waste shall be emplaced in a manner that minimizes the void spaces between packages and permits the void spaces to be filled.

(6) Void spaces between waste packages shall be filled with earth or other material to reduce future subsidence within the fill.

(7) Cover design shall minimize water infiltration to the extent practicable, direct percolating or surface water away from the disposed waste, and resist degradation by surface geologic processes and biotic activity.

(8) In general, a site authorized under this subchapter shall be located, designed, operated, and closed so that long-term isolation and custodial care for long-term stability would not be required beyond the time the licensee can reasonably be expected to occupy the site. If a site does not meet this objective, requirements for long-term care shall be evaluated.

(9) The location of a disposal site shall be compatible with the uses of surrounding environs (both the applicant's and adjacent properties).

**§336.619. Financial Assurance for Decommissioning.**

(a) A financial assurance mechanism or combination of mechanisms in accordance with Chapter 37 of this title (relating to Financial Assurance) is required for all entities currently licensed or proposed to be licensed.

(b) Applicants for a new license to decommission an inactive disposal site shall submit with the application a signed statement regarding how the applicant will provide financial assurance for decommissioning using one or more of the mechanisms specified in Chapter 37 of this title. The amount of financial assurance shall be based upon the detailed cost estimate included in the decommissioning plan submitted with the application. The financial assurance for decommissioning shall be provided at least 30 days prior to license issuance and be effective upon license issuance.

(c) Holders of licenses issued before January 1, 1998 shall submit a funding plan before January 1, 1998. Each funding plan must contain:

(1) a cost estimate for decommissioning;

(A) Each holder of a license authorizing the disposal 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 §336.627 of this title (relating to Radionuclide Quantities for Use in Determining Financial Assurance for Decommissioning) or 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 §336.627 of this title, shall submit a certification of financial assurance for decommissioning in an amount at least equal to \$750,000, in accordance with the criteria set forth in this subchapter and Chapter 37 of this title; or

(B) Each holder of a license authorizing disposal of radioactive material with a half-life greater than 120 days shall provide certification of financial assurance for decommissioning based on the quantity of material as follows:

(i) \$750,000--greater than  $10^4$  but less than or equal to  $10^5$  times the applicable quantities in §336.627 of this title, in unsealed form. (For a combination of isotopes, if R, as defined in subparagraph (A) of this paragraph, divided by  $10^4$  is greater than 1 but R divided by  $10^5$  is less than or equal to 1.); or

(ii) \$150,000--greater than  $10^3$  but less than or equal to  $10^4$  times the applicable quantities in §336.627 of this title in unsealed form. (For a combination of isotopes, if R, as

defined in subparagraph (A) of this paragraph, divided by  $10^3$  is greater than 1 but R divided by  $10^4$  is less than or equal to 1.).

(C) Notwithstanding the requirements of subparagraphs (A) and (B) of this paragraph:

(i) each holder for a license authorizing the disposal of more than 100 millicuries of source material in a readily dispersible form shall submit certification that financial assurance has been provided in the amount of \$750,000;

(ii) each holder for a license authorizing the disposal of quantities of source material greater than ten millicuries but less than or equal to 100 millicuries in a readily dispersible form shall submit certification that financial assurance has been provided in the amount of \$150,000;

(2) a description of the financial assurance mechanism of assuring funds for decommissioning as specified in Chapter 37 of this title, including means for adjusting cost estimates and associated funding levels annually over the life of the facility; and

(3) a certification by the licensee that a signed original of the financial assurance mechanism for decommissioning, in accordance with criteria set forth in this section and Chapter 37 of this title, has been submitted to and approved by the executive director in the amount specified in paragraph (1) of this subsection.

(d) Holders of existing licenses for inactive disposal sites shall, as part of the license renewal process, submit a signed statement adjusting the amount of financial assurance based upon the detailed cost estimate included in the decommissioning plan submitted with the renewal application. The adjusted amount of financial assurance for decommissioning shall be effective upon license renewal.

(e) Holders of licenses for active disposal sites shall submit a signed statement adjusting the amount of financial assurance based upon the detailed cost estimate included in the decommissioning plan submitted no later than the date specified in §336.625(e) of this title (relating to Expiration and Termination of Licenses).

**§336.621. Recordkeeping for Decommissioning.**

Each person licensed under this subchapter 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 commission. If records of relevant information are kept for other purposes, reference to these records and their locations may be used. Information important to decommissioning consists of:

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

(2) as-built drawings and modifications of structures and equipment in restricted areas where radioactive materials are disposed of and of locations of possible inaccessible contamination (e.g., buried pipes) that shall 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;

(3) except for areas containing only radioactive materials having half-lives of less than 65 days, a list contained in a single document and updated every two years of the following:

(A) all areas designated as restricted areas, as defined in §336.2 of this title (relating to Definitions), and all areas formerly designated as restricted areas under rules in effect before January 1, 1994;

(B) all areas outside of restricted areas that require documentation under paragraph (1) of this section;

(C) all areas outside of restricted areas where current and previous wastes have been buried as documented under §336.338 of this title (relating to General Recordkeeping Requirements for Disposal); and

(D) all areas outside of restricted areas which contain material such that, if the license expired, the licensee must be required to decontaminate the area to unrestricted release levels;  
and

(4) records of the cost estimate performed for the funding plan or of the amount certified for decommissioning, and records of the financial assurance mechanism used for assuring funds.

**§336.623. Financial Assurance for Control and Maintenance.**

(a) An applicant or licensee required to demonstrate financial assurance for control and maintenance of a site shall maintain financial assurance for control and maintenance upon license issuance and during the decommissioning period. The applicant or licensee shall provide sufficient financial assurance to enable an independent third party, including a governmental custodian of a site, to assume and carry out responsibilities for any necessary control and maintenance of the site. The financial assurance mechanism(s) for control and maintenance shall comply with Chapter 37 of this title (relating to Financial Assurance) including increasing annually the financial assurance amount for inflation or whenever modifications to the control and maintenance activities or changes to the amount being demonstrated causes the amounts for control and maintenance to increase.

(b) Prior to license termination, the licensee shall deposit a sum of cash acceptable to the executive director into the Texas Treasury Safekeeping Control and Maintenance account to assume and carry out responsibilities for any necessary surveillance, monitoring, control, maintenance, and other care of the decommissioned disposal site on a continual basis during the institutional control period. Upon receipt of the deposit, the executive director shall release the existing financial assurance mechanism(s) for control and maintenance. If a deposit is not made into the Control and Maintenance

account, the executive director shall draw on the existing financial assurance mechanism(s) and deposit the cash into the Texas Safekeeping Treasury Control and Maintenance account.

**§336.625. Expiration and Termination of Licenses.**

(a) Each license expires at the end of the day on the expiration date stated in the license unless the licensee has filed an application for renewal not less than 30 days before the expiration date stated in the existing license. If an application for renewal in proper form has been filed at least 30 days before the expiration date stated in the existing license, the existing license shall not expire until the application has been finally determined by the commission. For the purposes of this section, "proper form" shall mean that the application includes the information required by §336.617 of this title (relating to Technical Requirements for Inactive Disposal Sites) or §336.513 of this title (relating to Technical Requirements for Active Disposal Sites). The existing license expires at the end of the day on which the commission makes a final determination to deny the renewal application or, if the determination states an expiration date, the expiration date stated in the determination.

(b) Each license revoked by the commission expires at the end of the day on the date of the commission's final determination to revoke the license, or on the expiration date stated in the determination, or as otherwise provided by commission order.

(c) Each license continues in effect, beyond the expiration date if necessary, with respect to possession of source material, byproduct material, or other radioactive material until the commission notifies the licensee in writing that the license is terminated. During this time, the licensee shall:

(1) limit actions involving source material, byproduct material, or other radioactive material to those related to decommissioning; and

(2) continue to control entry to restricted areas until they are suitable for release in accordance with commission requirements.

(d) Within 60 days of the occurrence of any of the following, each licensee of an active disposal site shall provide written notification to the executive director:

(1) the license has expired under subsection (a) or (b) of this section; or

(2) the licensee has decided to permanently cease principal activities at the entire site or in any separate building or outdoor area that contains residual radioactivity such that the building or outdoor area is unsuitable for unrestricted release in accordance with commission requirements; or

(3) no principal activities under the license have been conducted for a period of 24 months; or

(4) 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 commission requirements.

(e) The licensee of an active disposal site shall either:

(1) within 60 days of the occurrence for which notification is required by subsection (d) of this section, begin decommissioning its site or any separate building or outdoor area that contains residual radioactivity, according to an approved decommissioning plan, so that the building or outdoor area is suitable for release in accordance with commission requirements; or

(2) if no decommissioning plan has been submitted, submit a decommissioning plan to the executive director, including a signed statement adjusting the amount of financial assurance based upon the detailed cost estimate included in the decommissioning plan, within 12 months of the notification required by subsection (d) of this section and request an amendment of the license to incorporate the plan into the license; and

(3) begin decommissioning within 60 days of the approval of that plan by the commission.

(f) The licensee of an inactive disposal site licensed under §336.615 of this title (relating to Inactive Disposal Sites), shall provide notice of and begin decommissioning within 90 days of license renewal. The owner or operator of an unlicensed inactive disposal site must apply for a license to decommission the site and begin decommissioning with 90 days of license approval.

(g) All licensees shall follow a commission-approved closure plan for decontamination, decommissioning, restoration, and reclamation of buildings and the site.

(1) Coincident with the notification required by subsections (d) or (f) of this section, the licensee shall continue to maintain in effect all decommissioning financial assurance until the license is terminated by the commission.

(2) The amount of the financial assurance must be increased, or shall be decreased, as appropriate, to cover the detailed cost estimate for decommissioning established under §336.613(f)(5) of this title (relating to Additional Requirements).

(3) Any licensee who has not provided financial assurance to cover the detailed cost estimate submitted with the decommissioning plan shall do so on or before January 1, 1998.

(4) Following approval of the decommissioning plan, with the approval of the executive director, a licensee shall reduce the amount of the financial assurance as decommissioning proceeds and radiological contamination is reduced at the site.

(h) The executive director may grant in writing a request to extend the time periods established in subsections (d), (e), or (f) of this section, or to delay or postpone the decommissioning process, if the executive director determines that this relief is not detrimental to the public health and safety and is otherwise in the public interest. The request must be submitted in writing no later than 30 days before notification under subsection (d) or (f) of this section. The schedule for decommissioning set forth in subsection (e) or (f) of this section shall not commence until the executive director has made a determination on the request.

(i) Licenses, including expired licenses, will be terminated by the commission by written notice to the licensee when the executive director determines that:

(1) source material, byproduct material, and other radioactive material has been properly disposed;

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

(3) the site is suitable for release;

(A) a radiation survey has been performed which demonstrates that the premises are suitable for release in accordance with commission requirements; or

(B) other information submitted by the licensee is sufficient to demonstrate that the premises are suitable for release in accordance with commission requirements;

(4) the licensee has paid any outstanding fees required by Subchapter B of this chapter (relating to Radioactive Substance Fees) and has resolved any outstanding notice(s) of violation issued to the licensee; and

(5) the licensee has complied with all other applicable decommissioning criteria required by this subchapter.

(j) A licensee may request that a subsite or a portion of a licensed area 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 by ongoing authorized activities. When the licensee is confident that the area of concern will be acceptable to the state for release for unrestricted use, a written request for release for unrestricted use and agency confirmation of close-out work performed must be submitted to the executive director. The request should include a comprehensive report, accompanied by survey and sample results which show contamination is less than the limits specified in §336.603 of this title (relating to Radiological Criteria for Unrestricted Use), and an explanation of how ongoing authorized activities will not adversely affect the area proposed to be released. Upon confirmation by the executive director that the area of concern is indeed releasable for unrestricted use, the licensee may apply for a license amendment, if required.

**§336.627. Appendix A. Radionuclide Quantities for Use in Determining Financial Assurance for Decommissioning.**

The following table is to be used in the calculation of financial assurance for decommissioning.

Figure: 30 TAC §336.627

Radionuclide Quantities  
for Use in Determining Financial  
Assurance for Decommissioning

Radioactive Material	Microcuries
Americium-241	0.01
Antimony-122	100
Antimony-124	10
Antimony-125	10
Arsenic-73	100
Arsenic-74	10
Arsenic-76	10
Arsenic-77	100
Barium-131	10
Barium-133	10
Barium-140	10
Bismuth-210	1
Bromine-82	10
Cadmium-109	10
Cadmium-115m	10
Cadmium-115	100
Calcium-45	10
Calcium-47	10
Carbon-14	100
Cerium-141	100
Cerium-143	100
Cerium-144	1
Cesium-131	1,000
Cesium-134m	100

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Cesium-134	1
Cesium-135	10
Cesium-136	10
Cesium-137	10
Chlorine-36	10
Chlorine-38	10
Chromium-51	1,000
Cobalt-58m	10
Cobalt-58	10
Cobalt-60	1
Copper-64	100
Dysprosium-165	10
Dysprosium-166	100
Erbium-169	100
Erbium-171	100
Europium-152 (9.2 hr)	100
Europium-152 (13 yr)	1
Europium-154	1
Europium-155	10
Fluorine-18	1,000
Gadolinium-153	10
Gadolinium-159	100
Gallium-72	10
Germanium-71	100
Gold-198	100
Gold-199	100
Hafnium-181	10

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Holmium-166	100
Hydrogen-3	1,000
Indium-113m	100
Indium-114m	10
Indium-115m	100
Indium-115	10
Iodine-125	1
Iodine-126	1
Iodine-129	0.1
Iodine-131	1
Iodine-132	10
Iodine-133	1
Iodine-134	10
Iodine-135	10
Iridium-192	10
Iridium-194	100
Iron-55	100
Iron-59	10
Krypton-85	100
Krypton-87	10
Lanthanum-140	10
Lutetium-177	100
Manganese-52	10
Manganese-54	10
Manganese-56	10
Mercury-197m	100
Mercury-197	100

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Mercury-203	10
Molybdenum-99	100
Neodymium-147	100
Neodymium-149	100
Nickel-59	100
Nickel-63	10
Nickel-65	100
Niobium-93m	10
Niobium-95	10
Niobium-97	10
Osmium-185	10
Osmium-191m	100
Osmium-191	100
Osmium-193	100
Palladium-103	100
Palladium-109	100
Phosphorus-32	10
Platinum-191	100
Platinum-193m	100
Platinum-193	100
Platinum-197m	100
Platinum-197	100
Plutonium-239	0.01
Polonium-210	0.01
Potassium-42	10
Praseodymium-142	100
Praseodymium-143	100

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Promethium-147	10
Promethium-149	10
Radium-226	0.01
Rhenium-186	100
Rhenium-188	100
Rhodium-103m	100
Rhodium-105	100
Rubidium-86	10
Rubidium-87	10
Ruthenium-97	100
Ruthenium-103	10
Ruthenium-105	10
Ruthenium-106	1
Samarium-151	10
Samarium-153	100
Scandium-46	10
Scandium-47	100
Scandium-48	10
Selenium-75	10
Silicon-31	100
Silver-105	10
Silver-110m	1
Silver-111	100
Sodium-24	10
Strontium-85	10
Strontium-89	1
Strontium-90	0.1

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Strontium-91	10
Strontium-92	10
Sulfur-35	100
Tantalum-182	10
Technetium-96	10
Technetium-97m	100
Technetium-97	100
Technetium-99m	100
Technetium-99	10
Tellurium-125m	10
Tellurium-127m	10
Tellurium-127	100
Tellurium-129m	10
Tellurium-129	100
Tellurium-131m	10
Tellurium-132	10
Terbium-160	10
Thallium-200	100
Thallium-201	100
Thallium-202	100
Thallium-204	10
Thorium (natural) <sup>1</sup>	100
Thulium-170	10
Thulium-171	10
Tin-113	10
Tin-125	10
Tungsten-181	10

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Tungsten-185	10
Tungsten-187	100
Uranium (natural) <sup>2</sup>	100
Uranium-233	0.01
Uranium-234, uranium-235	0.01
Vanadium-48	10
Xenon-131m	1,000
Xenon-133	100
Xenon-135	100
Ytterbium-175	100
Yttrium-90	10
Yttrium-91	10
Yttrium-92	100
Yttrium-93	100
Zinc-65	10
Zinc-69m	100
Zinc-69	1,000
Zirconium-93	10
Zirconium-95	10
Zirconium-97	10
Any alpha-emitting radionuclide not listed above or mixtures of alpha emitters of unknown composition	0.01
Any radionuclide other than alpha-emitting radionuclides not listed above or mixtures of beta emitters of unknown composition	0.1

Notes:

1. Based on alpha disintegration rate of thorium-232, thorium-230, and their daughter products.
2. Based on alpha disintegration rate of uranium-238, uranium-234, and uranium-235.

## **SUBCHAPTER H: LICENSING REQUIREMENTS FOR NEAR-SURFACE**

### **LAND DISPOSAL OF LOW-LEVEL RADIOACTIVE WASTE**

#### **§§336.701, 336.702, 336.705, 336.718**

#### **STATUTORY AUTHORITY**

The amendments are proposed under the Texas Radiation Control Act; THSC, §§401.011, 401.051, 401.057, 401.101, 401.103(b) and (c), 401.104(b)-(e), 401.106(b) and (c), 401.116, 401.201-401.203, 401.303, 401.412, 401.413, and 401.415; Texas Government Code, §2001.004(1); and Texas Water Code, §5.103, which give the commission the authority to adopt rules necessary to carry out its responsibilities to regulate and license the disposal of radioactive substances.

These amendments implement THSC, Chapter 401, relating to Radioactive Materials and Other Sources of Radiation.

#### **§336.701. Scope and General Provisions.**

(a) This subchapter establishes, for near-surface land disposal of low-level radioactive waste and accelerator-produced radioactive material, the procedures, criteria, and terms and conditions upon which the commission issues a license for the disposal of low-level radioactive wastes and accelerator-produced radioactive material received from other persons. The rules in this subchapter apply to disposal of low-level radioactive waste and accelerator-produced radioactive material as defined in §336.2 of this title (relating to Definitions). For the purpose of this subchapter, the term “low-level radioactive waste” includes accelerator-produced radioactive material. If there is a conflict between the

rules of the commission and the rules of this subchapter, the rules of this subchapter shall prevail. No person shall engage in disposal of low-level radioactive waste received from other persons except as authorized in a specific license issued under this subchapter. A licensee under this subchapter shall conduct processing of low-level radioactive waste received for disposal at the licensed site, incidental to the disposal of that waste, in accordance with provisions of the commission license which authorizes the disposal.

(b) A licensee authorized to dispose of low-level radioactive waste under the rules in this subchapter shall not accept for disposal:

(1) high-level radioactive waste as defined in 10 Code of Federal Regulations (CFR) [CFR] 60.2 as amended through October 27, 1988 (53 FedReg 43421) (Definitions - high-level radioactive wastes in geologic repositories);

(2) byproduct material as defined in §336.2(13)(B) [§336.2, subparagraph (B)] of this title[, except as provided in subsection (c) of this section];

[(3) waste containing transuranic radionuclides in concentrations of 10 or more nanocuries per gram. This limit of 10 nanocuries per gram of transuranics shall not be equaled or exceeded in waste disposed of at a land disposal facility licensed under the rules in this subchapter, notwithstanding the concentration limits for transuranics specified in §336.362, Appendix E, of this title (relating to Classification and Characteristics of Low-Level Radioactive Waste);]

(3) [(4)] spent or irradiated nuclear fuel; or

(4) [(5)] waste that is not generally acceptable for near-surface disposal as specified in §336.362 of this title (relating to Appendix E. Classification and Characteristics of Low-Level Radioactive Waste).

[(c) A licensee authorized to dispose of radioactive waste under the rules in this subchapter shall accept in any one calendar year, from January 1 through December 31 of each year, byproduct material as defined in §336.2, subparagraph (B) of this title, in a total quantity not exceeding 10,000 kilograms and containing no more than five millicuries of radium-226, provided that the near-surface disposal license specifically authorizes by license condition the acceptance for disposal of such byproduct material in quantities as provided for in this subsection.]

(c) [(d)] In addition to the requirements of this subchapter, all licensees, unless otherwise specified, are subject to the requirements of Subchapters A-E and G of this chapter (relating to General Provisions; Radioactive Substance Fees; General Disposal Requirements; [Additional Application, Operation, and License Requirements;] Standards for Protection Against Radiation; Notices, Instructions, and Reports to Workers and Inspections; and Decommissioning Standards).

(d) [(e)] [Requirements for] On-site disposal of low-level radioactive waste at any site authorized under §336.501(b) of this title (relating to Scope and General Provisions), [by an individual waste generator are set forth in Subchapter D of this chapter and Subchapter F of this chapter (relating

to Licensing of Alternative Methods of Disposal of Radioactive Material), and this disposal] is not subject to licensing under this subchapter.

(e) Shipment and transportation of low-level radioactive waste to a licensed land disposal facility in Texas is subject to applicable rules of the Texas Department of Health, United States Department of Transportation, and United States Nuclear Regulatory Commission. Each shipment of low-level radioactive waste to a licensed land disposal facility in Texas is subject to inspection by the Texas Department of Health before shipment.

**§336.702. Definitions.**

Terms used in this subchapter are defined in §336.2 of this title (relating to Definitions). Additional terms used in this subchapter have the following definitions. [:]

(1)-(5) (No change.)

[(6) **Disposal** - The isolation of radioactive waste from the biosphere inhabited by man and containing his food chains by emplacement in a land disposal facility.]

(6) [(7)] **Disposal site** - That portion of a land disposal facility which is used for disposal of waste. It consists of disposal units and a buffer zone.

(7) [(8)] **Disposal unit** - A discrete portion of the disposal site into which waste is placed for disposal. For near-surface disposal, the disposal unit is usually a trench.

(8) [(9)] **Engineered barrier** - A man-made structure or device that is intended to improve the land disposal facility's ability to meet the performance objectives in this subchapter.

(9) [(10)] **Explosive material** - Any chemical compound, mixture, or device which produces a substantial instantaneous release of gas and heat spontaneously or by contact with sparks or flame.

(10) [(11)] **Government agency** - Any executive department, commission, independent establishment, or corporation, wholly or partly owned by the United States of America or the State of Texas and which is an instrumentality of the United States or the State of Texas; or any board, bureau, division, service, office, officer, authority, administration, or other establishment in the executive branch of the government.

(11) [(12)] **Hazardous wastes** - Those wastes designated as hazardous by the EPA [United States Environmental Protection Agency] rules in 40 Code of Federal Regulations [CFR] Part 261 as amended through July 1, 1996 (61 FedReg 34278) (Identification and Listing of Hazardous Waste).

(12) [(13)] **Hydrogeologic unit** - Any soil or rock unit or zone which by virtue of its porosity or permeability, or lack thereof, has a distinct influence on the storage or movement of groundwater.

(13) [(14)] **Inadvertent intruder** - A person who might occupy the disposal site after closure and engage in normal activities, such as agriculture, dwelling construction, or other pursuits in which the person might be unknowingly exposed to radiation from the waste.

(14) [(15)] **Intruder barrier** - A sufficient depth of cover over the waste that inhibits contact with waste and helps to ensure that radiation exposures to an inadvertent intruder meet the performance objectives set forth in this subchapter, or engineered structures that provide equivalent protection to the inadvertent intruder.

(15) [(16)] **Monitoring** - Observing and making measurements to provide data to evaluate the performance and characteristics of the disposal site.

(16) [(17)] **Pyrophoric material** -

(A) Any liquid that ignites spontaneously in dry or moist air at or below 130 degrees Fahrenheit (54.5 degrees Celsius); or

(B) Any solid material, other than one classed as an explosive, which under normal conditions is liable to cause fires through friction, retained heat from manufacturing or

processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious transportation, handling, or disposal hazard. Included are spontaneously combustible and water-reactive materials.

(17) [(18)] **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 the commission or other state agencies, such as the Railroad Commission of Texas and the Texas Natural Resources Information System; and reports of governmental agencies.

(18) [(19)] **Site closure and stabilization** - Those actions that are taken upon completion of operations that prepare the disposal site for custodial care and that assure that the disposal site remain stable and not need ongoing active maintenance.

(19) [(20)] **Stability** - Structural stability.

(20) [(21)] **Surveillance** - Observation of the disposal site for purposes of visual detection of need for maintenance, custodial care, evidence of intrusion, and compliance with other license and regulatory requirements.

(21) [(22)] **Waste** - See "low-level radioactive waste" as defined in §336.2 of this title.  
[Radioactive waste, or low-level radioactive waste, as defined in §336.2 of this title (relating to Definitions) which is acceptable for disposal in a land disposal facility. Notwithstanding the definitions

in §336.2 of this title, the term "waste" as used in this subchapter includes transuranics in concentrations less than 10 nanocuries per gram, as provided in §336.701(b)(3) of this title (relating to Scope and General Provisions), and byproduct material which meets the limitations of §336.701(c) of this title.]

**§336.705. Content of Application.**

An application for a license to receive, possess, and dispose of waste from other persons by near-surface land disposal shall consist of, but is not limited to, the information set forth in Chapter 305 of this title (relating to Consolidated Permits), §336.706 of this title (relating to General Information), §336.707 of this title (relating to Specific Technical Information), §336.708 of this title (relating to Environmental Information), §336.709 of this title (relating to Technical and Environmental Analyses), §336.710 of this title (relating to Institutional Information), and §336.711 of this title (relating to Financial Information).

**§336.718. Application for Renewal or Closure.**

(a) (No change.)

(b) Applications for renewal of a license shall be filed in accordance with Chapter 305 of this title (relating to Consolidated Permits), §336.705 of this title (relating to Content of Application), §336.706 of this title (relating to General Information), §336.707 of this title (relating to Specific Technical Information), §336.708 of this title (relating to Environmental Information), §336.709 of this

title (relating to Technical and Environmental Analyses), §336.710 of this title (relating to Institutional Information), §336.711 of this title (relating to Financial Information), and the rules of the commission. Applications for closure shall be filed in accordance with §336.719 of this title [(relating to Content of Application for Closure)] and the rules of the commission.

(c) (No change.)

**SUBCHAPTER H: LICENSING REQUIREMENTS FOR NEAR-SURFACE  
LAND DISPOSAL OF LOW-LEVEL RADIOACTIVE WASTE**

**§336.742**

**STATUTORY AUTHORITY**

The repeal is proposed under the Texas Radiation Control Act; THSC, §§401.011, 401.051, 401.057, 401.101, 401.103(b) and (c), 401.104(b)-(e), 401.106(b) and (c), 401.201-401.203, 401.303, 401.412, and 401.413; Texas Government Code, §2001.004(1); and Texas Water Code, §5.103.

The repeal implements THSC, Chapter 401, relating to Radioactive Materials and Other Sources of Radiation.

**§336.742. Inspections of Land Disposal Facilities.**