

The Texas Commission on Environmental Quality (commission or TCEQ) adopts amendments to §§336.1, 336.105, 336.211, 336.501, and 336.601. The commission also adopts new Subchapter K consisting of §§336.1001, 336.1003, 336.1005, 336.1007, 336.1009, 336.1011, 336.1013, 336.1015, 336.1017, and 336.1019. Sections 336.1, 336.105, 336.211, 336.1005, 336.1007, 336.1009, 336.1011, 336.1013, and 336.1015 are adopted *with changes* to the proposed text published in the January 28, 2005, issue of the *Texas Register* (30 TexReg 363). Sections 336.501, 336.601, 336.1001, 336.1003, 336.1017, and 336.1019 are adopted *without changes* and will not be republished.

BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE ADOPTED RULES

On September 24, 2003, the commission considered the petition for rulemaking filed by Newpark Resources, Inc. (petitioner) on August 5, 2003. The petitioner requested that the commission initiate rulemaking to allow commercial disposal of naturally occurring radioactive material (NORM) waste in Class I injection wells located at facilities at which the storage and processing of such material is licensed by the Texas Department of Health (TDH), Bureau of Radiation Control. TDH is the predecessor agency of the Department of State Health Services (DSHS). The petitioner also requested amendments to the Memorandum of Understanding (MOU) between TDH and the commission to reflect that TDH is authorized to regulate the storage and processing of NORM waste that will be disposed of at a commercial NORM waste disposal facility.

The commission directed staff to initiate rulemaking for the licensing of commercial disposal of NORM waste streams from public water systems by injection into Class I injection wells. The commission decided that the MOU with TDH should not be amended as requested by the petitioner. The MOU with

TDH is codified as 25 TAC §289.101 and adopted by reference in 30 TAC §7.118, Memorandum of Understanding between the Texas Department of Health and the Texas Natural Resource Conservation Commission Regarding Radiation Control Functions. Section 289.101(d)(1) of the MOU provides that the receipt, storage, and/or processing of radioactive substances received by a Texas Natural Resource Conservation Commission (TNRCC) (predecessor agency of the TCEQ) licensee at a commercial radioactive substance disposal facility for the explicit purpose of disposal at that facility shall be regulated by the TNRCC. This requirement is mirrored in existing commission rules in 30 TAC §336.211(d), General Requirements for Radioactive Material Disposal. Thus, the receipt, storage, and/or processing of NORM waste at a commercial disposal facility will be regulated by the TCEQ in accordance with these provisions. This is necessary to ensure that NORM waste is properly conditioned for disposal in Class I injection wells. Also, the TCEQ must ensure that procedures for waste receipt, storage, and processing are protective of human health and safety and the environment.

This rulemaking adopts amendments to Chapter 336 to create a licensing program for the commercial Class I injection well disposal of NORM waste generated by public water systems. A corresponding rulemaking that includes changes to 30 TAC Chapter 39, Public Notice, is published in this issue of the *Texas Register*.

SECTION BY SECTION DISCUSSION

Administrative and grammatical changes are adopted throughout the sections to bring the existing rule language into agreement with guidance provided in the *Texas Legislative Council Drafting Manual*, November 2004.

SUBCHAPTER A: GENERAL PROVISIONS

§336.1, Scope and General Provisions

Section 336.1 is adopted to provide authorization for disposal of NORM waste. Specifically, new §336.1(f)(4) provides authorization for disposal of NORM waste from other persons in accordance with Subchapter K, Commercial Disposal of Naturally Occurring Radioactive Material Waste From Public Water Systems.

SUBCHAPTER B: RADIOACTIVE SUBSTANCE FEES

§336.105, Schedule of Fees for Other Licenses

Section 336.105 is adopted to amend the fees for licenses issued under Subchapter K, and to modify fees for licenses issued under Subchapter F, Licensing of Alternative Methods of Disposal of Radioactive Material. Section 336.105(a)(1) increases the license application fee for facilities regulated under Subchapter F from \$20,000 to \$50,000. The increased fee more accurately reflects the commission's cost in reviewing a Subchapter F license application. Texas Health and Safety Code (THSC), §401.412(d), provides that the commission may assess and collect an annual fee for each license and registration and for each application in an amount sufficient to recover its reasonable costs. The commission's cost for reviewing a new application and issuing a radioactive material license under Subchapter F or Subchapter K is approximately \$40,000 to \$100,000, depending on the complexity of the application. These estimates do not include fringe and indirect costs. Adopted new subsection (a)(3) requires a license application fee of \$50,000 for facilities regulated under Subchapter K. Section 336.105(a) is also adopted to reorganize the list of subchapters in sequential order. Section 336.105(b)(1) decreases the annual license fee for facilities regulated under Subchapter F from \$28,900

to \$25,000. The decreased annual fee more accurately reflects the commission's cost in reviewing a licensee's annual reports and conducting inspections of licensed facilities. The commission's cost for conducting an annual review of an existing radioactive material license issued under Subchapter F or Subchapter K is approximately \$25,000. This estimate includes one compliance inspection of the facility per year. Adopted new subsection (b)(3) requires an annual license fee of \$25,000 for facilities regulated under Subchapter K. Section 336.105(b) is also adopted to reorganize the list of subchapters in sequential order. Section 336.105(c) is adopted to require a fee of \$10,000 for major amendments of licenses issued under Subchapter K. This adopted fee is consistent with existing fees for a major amendment of licenses issued under Subchapter F and Subchapter G. Adopted new §336.105(d) requires a license application fee of \$35,000 for the renewal of licenses issued under Subchapter F or Subchapter K. This amount was decreased from \$50,000 in the proposed rules in response to comments received. Existing §336.105(d) is relettered as §336.105(e) and provides a fee schedule for holders of licenses issued under Subchapter K following cessation of disposal activities.

SUBCHAPTER C: GENERAL DISPOSAL REQUIREMENTS

§336.211, General Requirements for Radioactive Material Disposal

Section 336.211(a) adds new subsection (a)(7). This amendment is adopted for consistency with other authorized disposal methods referenced in the section. Existing subsection (a)(7) and (8) are renumbered accordingly. Section 336.211(b) adds new §336.211(b)(5). New subsection (b)(5) requires a person to be specifically licensed to receive waste containing licensed material from other persons for disposal by injection into an underground injection control Class I injection well.

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

§336.501, Scope and General Provisions

Section 336.501 adds a new subsection (d). Adopted new §336.501(d) provides that the commission may license the commercial disposal of NORM waste under Subchapter K.

SUBCHAPTER G: DECOMMISSIONING STANDARDS

§336.601, Applicability

Section 336.601(a) applies the decommissioning criteria in Subchapter G to NORM waste disposal facilities that are licensed under Subchapter K.

NEW SUBCHAPTER K: COMMERCIAL DISPOSAL OF NATURALLY OCCURRING RADIOACTIVE MATERIAL WASTE FROM PUBLIC WATER SYSTEMS

§336.1001, Scope and General Provisions

New §336.1001 is adopted to provide a statement of general applicability for Subchapter K, which establishes requirements for waste disposal facilities that accept NORM waste from public water systems for commercial disposal by injection into Class I injection wells. The requirements of Subchapter K will not preclude a generator from on-site disposal of NORM waste by Class I injection or by other authorized disposal methods under Subchapter F. Subchapter F applies to authorization of non-commercial disposal activities.

§336.1003, Definitions

Adopted new §336.1003(1) adds a definition for “Commercial disposal,” that is the disposal of NORM waste received by the licensee from other persons. Adopted new §336.1003(2) adds a definition for “Naturally occurring radioactive material waste disposal facility.” Adopted new §336.1003(3) adds a definition for “Public water system.” Adopted new §336.1003(4) adds a definition for “Site.”

§336.1005, Disposal Method

New §336.1005 is adopted to authorize the commercial disposal of NORM waste from public water systems only by injection into a Class I injection well permitted under 30 TAC Chapter 331, Underground Injection Control, that is specifically permitted for the disposal of NORM waste. The words “from public water systems” were added in response to comments.

§336.1007, License Application for Commercial Disposal of Naturally Occurring Radioactive Material Waste

New §336.1007 is adopted to provide requirements for applications for licenses for the commercial disposal of NORM waste. New subsection (a) is adopted to provide technical requirements to be addressed in the license application that will enable the executive director to evaluate the applicant’s proposed siting, design, construction, and operation of the NORM waste disposal facility. The words “specific activity” were added to §336.1007(a)(1) in response to comments. New subsection (b) is a general requirement that the applicant shall submit sufficient information to allow the executive director to assess the potential hazard to public health and safety, and to determine whether the NORM waste disposal facility will have a significant impact on the environment. New subsection (c) requires that the applicant shall provide any other information that may be requested by the executive director.

§336.1009, Standards for Issuance of a License, License Amendment, or License Renewal

New §336.1009 is adopted to specify the standards that the applicant must meet for the commission to issue, amend, or renew a license for commercial disposal of NORM waste. New §336.1009(1) is adopted to ensure that the applicant is qualified by reason of training and experience to carry out the disposal operations in a manner that protects human health and safety and the environment. New §336.1009(2) is adopted to require that the applicant's proposed NORM waste disposal facility's siting, design, construction, operation, and closure are adequate to protect the public health and safety in that it will provide reasonable assurance that the general population will be protected from releases of radioactivity. New §336.1009(3) is adopted to require that the applicant has provided reasonable assurance that applicable technical requirements of this chapter have been met. New §336.1009(4) is adopted to require that the applicant's financial assurance meets the requirements of this chapter. Section 336.1011(g) in the proposal has been moved to §336.1009(5) for consistency. The requirement that the location of the NORM waste disposal facility must be compatible with the uses of surrounding environs is more appropriate as a finding made upon license issuance. New §336.1009(5) is renumbered as §336.1009(6) and adopted as a general requirement that the applicant shall meet all applicable requirements under the rules of the commission.

§336.1011, Performance Objectives

New §336.1011 is adopted to establish radiological criteria for the performance of the NORM waste disposal facility. A performance assessment shall be conducted by the applicant to ensure that these radiological criteria are met. Adopted new §336.1011(a) provides that the performance objectives of this section apply to the NORM waste disposal facility and any underground source of drinking water,

as defined in §331.2, Definitions, that may be impacted by activities at the NORM waste disposal facility. The performance objectives do not apply to NORM waste in the injection zone.

Adopted new §336.1011(b) requires that radiation exposure and release of radioactive materials from a NORM waste disposal facility shall be maintained as low as is reasonably achievable. Concentrations of radioactive material that may be released to the general environment in groundwater, surface water, air, soil, plants, or animals shall not result in an annual dose above background exceeding an equivalent of 25 millirems to the whole body, 75 millirems to the thyroid, or 25 millirems to any other organ of any member of the public. These requirements are consistent with the performance objectives for the disposal of low-level radioactive waste given in Subchapter H of this chapter.

Adopted new §336.1011(c) requires that operations at the NORM waste disposal facility shall be conducted in compliance with the standards for radiation protection set out in Subchapter D, Standards for Protection Against Radiation, except for releases of radioactivity in effluents from the NORM waste disposal facility, which shall be governed by §336.1011(b). The licensee is also required to conduct analyses of the protection of individuals during operations, and those analyses shall include assessments of expected doses due to routine operations and potential accidents during handling, storage, processing, and disposal of NORM waste. The word “doses” was substituted for “exposures” and the word “potential” was substituted for “likely” in response to comments. Adopted new §336.1011(d) requires that the location and characteristics of a NORM waste disposal facility must preclude potential off-site migration or transport of radioactive materials or ready access to critical exposure pathways. This requirement is consistent with existing rules for licensing of alternative methods of disposal of

radioactive material under §336.513(c)(2). Adopted new §336.1011(e) describes the analyses required to demonstrate protection of the general population from releases of radioactivity. Adopted new §336.1011(f) requires that the NORM waste disposal facility must be located, designed, constructed, operated, and closed so that long-term isolation and custodial care for long-term stability will not be required beyond the time that the licensee occupies the NORM waste disposal facility. Section 336.1011(g) in the proposal has been moved to adopted §336.1009(5) for consistency with other standards for issuance of a license.

§336.1013, Terms and Conditions of License

New §336.1013 is adopted to establish terms and conditions for a NORM waste disposal facility license. Adopted new subsection (a) is a general provision requiring that at any time before termination of the license, the licensee shall submit written statements under oath upon request of the commission or executive director to enable the commission to determine whether or not the license should be modified, suspended, or revoked. Adopted new subsection (b) provides that the licensee shall be subject to the applicable provisions of THSC, Chapter 401, also known as the Texas Radiation Control Act. Adopted new subsection (c) provides that any license may be revoked, suspended, or modified, in whole or in part, for any material false statement in the application. Adopted new subsection (d) requires that each person licensed by the commission under this subchapter shall confine possession and use of NORM waste to the locations and purposes authorized in the license.

Adopted new subsection (e) requires that no NORM waste may be disposed of until the executive director has inspected the NORM waste disposal facility and has found it to be in conformance with the

description, design, and construction described in the application for a license. Section 336.1013(e)(2) in the proposal has been deleted in response to comments. Adopted new subsection (f) requires that no NORM waste may be received for disposal at the NORM waste disposal facility until the executive director has approved financial assurance in writing. Adopted new subsection (g) provides that the commission may incorporate additional requirements and conditions in any license at the time of issuance, or thereafter, by appropriate rule or order. Adopted new subsection (h) provides that each license shall be issued for an initial term of ten years from the date of issuance. After the initial ten years, the commission may renew the license for one or more terms of ten years. The authority to dispose of radioactive material expires on the date stated in the license.

§336.1015, Maintenance of Records and Reports

New §336.1015 is adopted to provide requirements for recordkeeping and maintenance of records. Adopted new subsection (a) requires that each licensee shall maintain any records and make any reports as may be required by the conditions of the license, by the rules in this chapter, or by orders of the commission. Adopted new subsection (b) provides that records that are required by the rules in this chapter or by license conditions must be maintained for a period specified by the appropriate rules or by license condition. Adopted new subsection (c) provides that each record required by this chapter must be legible throughout the specified retention period. Adopted new subsection (d) provides that 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. Adopted new subsection (e) requires that the licensee shall record the location and the quantity of wastes disposed and shall transfer these records

upon license termination to the executive director and to such other government agencies or officials as designated by the commission.

Adopted new subsection (f) describes receipt, acceptance, and manifesting requirements for shipments of NORM waste. Adopted new subsection (g) requires that each licensee authorized to dispose of waste received from other persons shall file a copy of its financial report or a certified financial statement annually with the executive director in order to update the information base for determining financial qualifications. Adopted new subsection (h) provides requirements for the submittal of annual reports by the licensee. Adopted new subsection (i) provides requirements for maintaining an electronic recordkeeping system.

§336.1017, Tests at Naturally Occurring Radioactive Material Waste Disposal Facilities

New §336.1017 is adopted to provide that each licensee shall perform or allow the executive director to perform any tests that the executive director deems appropriate or necessary for the administration of the rules in this chapter.

§336.1019, Liability Coverage and Funding for Naturally Occurring Radioactive Material Waste

Disposal Facility Closure and Stabilization

New §336.1019 is adopted to provide financial assurance and liability coverage requirements for NORM waste disposal facilities. Adopted new subsection (a) requires that the applicant shall provide assurance 60 days prior to the initial receipt of waste that sufficient funds will be available to carry out closure and stabilization of the NORM waste disposal facility. Adopted new subsection (b) requires that the assurance must be based on cost estimates approved by the executive director, which reflect the commission-approved plan for closure and stabilization of the NORM waste disposal facility. The applicant's cost estimates must take into account total costs that would be incurred if an independent contractor were hired to perform the closure and stabilization work. Adopted new subsection (c) provides that the licensee's financial assurance mechanism and cost estimates must be reviewed annually to assure that sufficient funds are available for completion of the closure plan, assuming that the work has to be performed by an independent contractor. Adopted new subsection (d) provides that the amount of financial assurance must change in accordance with the predicted cost of future closure and stabilization. Adopted new subsection (e) requires that 60 days prior to the initial receipt of waste, the licensee shall provide financial assurance for bodily injury and property damage to third parties caused by sudden and non-sudden accidental occurrences arising from operations of the NORM waste disposal facility in a manner that meets the requirements of 30 TAC Chapter 37, Financial Assurance. Adopted new subsection (e) also requires that financial assurance mechanisms submitted to comply with this section must meet the requirements specified in Chapter 37.

FINAL REGULATORY IMPACT ANALYSIS DETERMINATION

The commission reviewed the adopted rules in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and determined that the adopted rules are not subject to §2001.0225 because they do not meet the criteria for a "major environmental rule" as defined in that statute.

A "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 specific intent of the adopted rules is to allow commercial injection well disposal of NORM waste generated by public water systems. These rules will benefit public water systems by providing an additional disposal option for NORM waste generated from the treatment of public water supplies. It is not anticipated that the adopted rules will 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 the adopted rules would only apply to commercial Class I injection well disposal of NORM waste generated by public water systems. Therefore, the commission concludes that these adopted rules do not meet the definition of a major environmental rule.

Furthermore, the adopted rulemaking action does not meet any of the four applicability requirements listed in Texas Government Code, §2001.0225(a). Section 2001.0225 only applies to a major environmental rule, the result of which is to: 1) exceed a standard set by federal law, unless the rule is

specifically required by state law; 2) exceed an express requirement of state law, unless the rule is specifically required by federal law; 3) exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or 4) adopt a rule solely under the general powers of the agency instead of under a specific state law.

In this case, the adopted rules do not meet any of these applicability requirements. First, there are no applicable federal standards that these rules would address. Disposal of NORM waste is not subject to standards established by the Nuclear Regulatory Commission or the United States Environmental Protection Agency (EPA). Second, the adopted rules do not exceed an express requirement of state law. THSC, Chapter 401, authorizes the commission to regulate the disposal of most radioactive material in Texas. However, there are no specific requirements for the disposal of NORM waste in the Texas Radiation Control Act that are exceeded by these adopted rules. Third, there is no delegation agreement that would be exceeded by these adopted rules because no delegation agreement relates to this subject matter area. Fourth, the commission does not propose these rules solely under the commission's general powers. THSC, Chapter 401, §§401.051, 401.103, 401.104, and 401.412, specifically authorize the commission to adopt rules for the control of sources of radiation and the licensing of the disposal of radioactive materials.

The commission invited public comment regarding the draft regulatory impact analysis determination during the public comment period. No comments were received on the draft regulatory impact analysis determination.

TAKINGS IMPACT ASSESSMENT

The commission evaluated these adopted rules and performed an assessment of whether the adopted rules constitute a taking under Texas Government Code, Chapter 2007. The specific purpose of the adopted rules is to allow commercial injection well disposal of NORM waste generated by public water systems. These adopted rules will only apply to commercial Class I injection well disposal of NORM waste generated by public water systems. EPA has adopted federal standards for radionuclides in drinking water; some public water systems subject to these federal standards will need to manage and dispose of their treatment residuals containing NORM in a manner that is protective of human health and safety and the environment. The adopted rules would substantially advance this stated purpose by allowing commercial injection well disposal of NORM waste streams generated by public water systems.

Promulgation and enforcement of these adopted rules would be neither a statutory nor a constitutional taking of private real property because the adopted rules do not affect real property. In particular, there are no burdens imposed on private real property, and the adopted rules would allow a new option for the commercial disposal of NORM waste for public water systems dealing with NORM waste generated by the treatment of public water supplies. The existing prohibition of commercial disposal of NORM waste is removed to allow commercial Class I injection well disposal of NORM waste generated by public water systems. Because the regulation does not affect real property, it does not burden, restrict, or limit an owner's right to property or reduce its value by 25% or more beyond that which would otherwise exist in the absence of the regulation. Therefore, these adopted rules will not constitute a taking under Texas Government Code, Chapter 2007.

CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission reviewed the adopted rulemaking and found that the rules are neither identified in Coastal Coordination Act Implementation Rules, 31 TAC §505.11, nor will they affect any action/authorization identified in Coastal Coordination Act Implementation Rules, 31 TAC §505.11. Therefore, the adopted rules are not subject to the Texas Coastal Management Program.

PUBLIC COMMENT

The comment period closed on February 28, 2005. A public hearing on this proposal was held in Austin on February 24, 2005.

Written and/or oral comments were received from Hance Scarborough Wright Woodward & Weisbart (HSWWW), the Office of Public Interest Counsel (OPIC), and EPA, Region 6 Ground Water/Underground Injection Control Section.

Oral comments were also received from the Texas Radiation Advisory Board (TRAB) at its quarterly meeting on February 26, 2005.

RESPONSE TO COMMENTS

TRAB generally supported the proposed rules and recommended the adoption with minor editorial changes. TRAB commented that proposed §336.1005, Disposal Method, should state explicitly that NORM waste from public water systems is authorized for disposal.

The commission agrees with this comment and is amending §336.1005 to add the words “from public water systems” to provide that only NORM waste from public water systems may be disposed.

TRAB commented that proposed §336.1007(a)(1) should include the specific activity of radionuclides to be disposed.

The commission agrees with this comment and is amending §336.1007(a)(1) to require a license applicant to submit a projected inventory of radionuclides in the waste to be disposed and the estimated concentration, specific activity, and total radioactivity by radionuclide.

TRAB commented that the word “doses” should be substituted for “exposures,” and that the word “potential” should be substituted for “likely” in §336.1011(c).

The commission agrees with this comment and is amending §336.1011(c) to provide a better description of information required in the analysis of the performance objectives.

EPA stated that it does not believe the proposed rules modify the delegated underground injection control program or the applicable rules and regulations. EPA commented that some NORM waste may tend to be in the form of slurries that may be more difficult to inject, and that federal regulations provided that the maximum allowed operating injection pressure in injection wells must not initiate new fractures or extend existing fractures in the injection zone.

The commission agrees with these comments. The federal regulation pertaining to limitations on maximum injection pressure is reflected in the commission's underground injection control rule in 30 TAC §331.63(b). The commission considers injection pressure at the wellhead as part of the review of Class I injection well permit applications. The maximum injection pressure is limited in each injection well permit to a value that is calculated to assure no new fractures are initiated and no existing fractures are propagated in the injection zone. The commission made no changes in response to these comments.

OPIC stated that it generally supports the adoption of the proposed rules. OPIC recommended deletion of §336.1013(e)(2), which waives the requirement for the TCEQ's executive director's inspection of the NORM waste disposal facility prior to commencement of waste disposal. OPIC contended that inspection by the executive director is imperative to verify that all construction requirements have been met and to ensure protection of human health and the environment.

The commission agrees with this comment. NORM waste may not be disposed of until the executive director has inspected the NORM waste disposal facility and found it to be in conformance with the description, design, and construction described in the application for a license. Section 336.1013(e)(2) has been deleted in response to this comment.

HSWWW generally supported the proposed rules but stated that the proposed fees were too high. HSWWW represents the petitioner and commented that the fees should be reduced to a reasonable level that their client can deal with.

HSWWW stated that the proposed application fee of \$50,000, the proposed annual fee of \$25,000, and the proposed license amendment fee of \$10,000 are significantly high for commercial NORM waste disposal facilities and should be reduced. HSWWW commented that if the proposed fees remain unchanged, the facilities would be obligated to increase disposal costs charged to public water systems, which would result in high costs for ultimate end use, the consumers.

HSWWW commented that the proposed license application fee of \$50,000 is excessive when compared to application fees for similar activities. HSWWW noted the application fee for Class I non-hazardous injection well permit applications is \$100 per well, plus a notice fee of \$50; Class I hazardous waste injection well permit application fees are \$2,000 per well, plus a notice fee of \$50; hazardous waste disposal facility permit application fees range from \$2,000 to a maximum of \$50,000; Railroad Commission of Texas oil and gas waste injection well application fees are \$100 per well; and the Texas Department of State Health Services (TDSHS) NORM waste storage and processing license application fee is \$9,999.

HSWWW commented that the proposed \$25,000 annual fee is excessive when compared to other annual fees. HSWWW noted that the TDSHS has an annual fee of \$9,999 for the commercial processing of NORM; the annual fee for Class I nonhazardous injection wells ranges from \$500 to \$5,000; hazardous waste facilities are subject to an annual fee ranging from \$2,500 to \$25,000. HSWWW commented that the annual fee for commercial NORM waste disposal facilities should be equivalent to the Class I nonhazardous waste facility annual fee.

HSWWW commented that the \$10,000 license amendment fee is excessive when compared to amendment applications for similar activities. HSWWW noted that the amendment application fee for Class I nonhazardous injection well permits is \$100 per well; the amendment application fee for a Class I hazardous injection well is \$2,000 per well. HSWWW stated that it could not identify any other regulations that require the licensee or permittee to pay a license amendment application fee for commercial waste management activities. Accordingly, HSWWW expressed the belief that it is not necessary to implement a license amendment application fee applicable to commercial NORM waste disposal facilities.

The commission partially agrees with these comments. The commission is a fee-based agency; that is, the commission's costs are covered, in a large part, by the fees from the entities that the commission regulates. Some of the fees referenced by HSWWW, such as the \$100 application fee for a Class I nonhazardous injection well, are set by statute and are far below the commission's actual cost for processing an application of this type. Other fees collected by the commission cover the actual cost of processing applications for Class I nonhazardous injection wells. Texas Health and Safety Code, §401.412(d), provides that the commission may assess and collect an annual fee for each license and registration and for each application in an amount sufficient to recover its reasonable costs. The proposed fees are based on estimates of the time required for various categories of employees to conduct activities related to licensing and inspection of regulated facilities. The proposed fees are consistent with the commission's actual cost of processing similar types of applications, and are therefore, not considered to be excessive. The commission's current fee structure for radioactive material licenses ranges from \$10,000 per year

for inspection and monitoring of an inactive buried waste site to \$500,000 for an initial application fee for a low level radioactive waste disposal license. The commission recognizes that licensing and disposal costs incurred by water treatment facilities may be passed on and may result in increased costs to the consumer.

HSWWW stated that the DSHS NORM waste storage and processing license application fee is \$9,999. This fee is actually \$19,998 for a NORM commercial processing license as prescribed in 25 TAC §289.204(e)(32), and the fee is assessed every two years. A NORM waste commercial processing facility, otherwise known as a decontamination facility, is not directly comparable to a NORM waste disposal facility. A NORM waste decontamination facility is a temporary facility used for decontamination of equipment and the processing and/or storage of NORM waste. A NORM waste disposal facility is a permanent facility where the waste remains in place for perpetuity. Thus, the fees for these two distinct types of facilities are not directly comparable. The fees for a NORM waste disposal facility licensed by the commission would be more directly comparable to fees charged by the DSHS for an 11e.(2) by-product material disposal facility. DSHS charges \$292,757 to process a new application for an 11e.(2) disposal facility. This is approximately six times the \$50,000 NORM waste disposal application fee proposed by the commission. DSHS charges a biennial fee of \$95,202 for an operational 11e.(2) facility. On an annualized basis, this is approximately two times the \$25,000 annual fee proposed by the commission.

The commission agrees that the renewal of a license requires a lesser degree of review than that required for processing a new license application; therefore, the fee required for the renewal of a license issued under Subchapters F and K has been reduced from \$50,000 to \$35,000 in response to this comment.

SUBCHAPTER A: GENERAL PROVISIONS

§336.1

STATUTORY AUTHORITY

The amendment is adopted under the Texas Radiation Control Act, THSC, Chapter 401; THSC, §401.011, which provides the commission authority to regulate and license the disposal of radioactive substances; §401.051, which authorizes the commission to adopt rules and guidelines relating to the control of sources of radiation; §401.103, which authorizes the commission to adopt rules and guidelines that provide for licensing and registration for the control of sources of radiation; §401.104, which requires the commission to provide rules for licensing for the disposal of radioactive material; and §401.412, which provides authority to the commission to regulate and license the disposal of radioactive substances and to adopt rules necessary to exercise this authority. The amendment is also adopted under Texas Water Code, §27.019, which requires the commission to adopt rules reasonably required for the performance of the commission's duties under the Injection Well Act. The adopted amendment is also authorized by Texas Water Code, §5.103, which provides the commission with the authority to adopt rules necessary to carry out its powers and duties under the Texas Water Code and other laws of the state.

The adopted amendment implements the Texas Radiation Control Act, THSC, Chapter 401; and the Injection Well Act, Texas Water Code, Chapter 27.

§336.1. Scope and General Provisions.

(a) Except as otherwise specifically provided, the rules in this chapter apply to all persons who dispose of radioactive substances, except by-product 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 (NRC) or to radioactive material in the possession of federal agencies.

(2) Any United States Department of Energy contractor or subcontractor or any NRC 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 NRC when the state and the NRC 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 that produce non-ionizing radiation.

(b) Regulation by the State of Texas of source material, by-product 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 NRC and to 10 Code of Federal Regulations Part 150 (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 Nuclear Regulatory 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 commission.) Under the Agreement and 10 CFR Part 150, the NRC retains certain regulatory authorities over source material, by-product 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 NRC with respect to these retained authorities.

(c) No person may receive, possess, use, transfer, or dispose of radioactive material, which is subject to the rules in this chapter, in such a manner that the standards for protection against radiation prescribed in these rules are exceeded.

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

(e) No person may cause or allow the release of radioactive material, which is subject to the rules in this chapter, to the environment in violation of this chapter or of any rule, license, or order of the Texas Commission on Environmental Quality (commission).

(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 person specifically licensed for the disposal of low-level radioactive waste;

(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; or

(4) dispose of radioactive materials from other persons other than low-level radioactive waste, except for naturally occurring radioactive material waste in accordance with Subchapter K of this

chapter (relating to Commercial Disposal of Naturally Occurring Radioactive Material Waste from Public Water Systems).

(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.

SUBCHAPTER B: RADIOACTIVE SUBSTANCE FEES

§336.105

STATUTORY AUTHORITY

The amendment is adopted under the Texas Radiation Control Act, THSC, Chapter 401; THSC, §401.011, which provides the commission authority to regulate and license the disposal of radioactive substances; §401.051, which authorizes the commission to adopt rules and guidelines relating to the control of sources of radiation; §401.103, which authorizes the commission to adopt rules and guidelines that provide for licensing and registration for the control of sources of radiation; §401.104, which requires the commission to provide rules for licensing for the disposal of radioactive material; and §401.412, which provides authority to the commission to regulate and license the disposal of radioactive substances and to adopt rules necessary to exercise this authority. The amendment is also adopted under Texas Water Code, §27.019, which requires the commission to adopt rules reasonably required for the performance of the commission's duties under the Injection Well Act. The adopted amendment is also authorized by Texas Water Code, §5.103, which provides the commission with the authority to adopt rules necessary to carry out its powers and duties under the Texas Water Code and other laws of the state.

The adopted amendment implements the Texas Radiation Control Act, THSC, Chapter 401; and the Injection Well Act, Texas Water Code, Chapter 27.

§336.105. Schedule of Fees for Other Licenses.

(a) Each application for a license under Subchapter F of this chapter (relating to Licensing of Alternative Methods of Disposal of Radioactive Material), Subchapter G of this chapter (relating to Decommissioning Standards), or Subchapter K of this chapter (relating to Commercial Disposal of Naturally Occurring Radioactive Material Waste from Public Water Systems) must be accompanied by an application fee as follows:

- (1) facilities regulated under Subchapter F of this chapter: \$50,000;
- (2) facilities regulated under Subchapter G of this chapter: \$10,000; or
- (3) facilities regulated under Subchapter K of this chapter: \$50,000.

(b) An annual license fee shall be paid for each license issued under Subchapter F, Subchapter G, and Subchapter K of this chapter. The amount of each annual fee is as follows:

- (1) facilities regulated under Subchapter F of this chapter: \$25,000; or
- (2) facilities regulated under Subchapter G of this chapter: \$8,400; or
- (3) facilities regulated under Subchapter K of this chapter: \$25,000.

(c) An application for a major amendment of a license issued under Subchapter F, Subchapter G, or Subchapter K of this chapter must be accompanied by an application fee of \$10,000.

(d) An application for renewal of a license issued under Subchapter F or Subchapter K of this chapter must be accompanied by an application fee of \$35,000.

(e) Upon permanent cessation of all disposal activities and approval of the final decommissioning plan, holders of licenses issued under Subchapter F or Subchapter K of this chapter shall use the applicable fee schedule for subsections (b) and (c) of this section.

SUBCHAPTER C: GENERAL DISPOSAL REQUIREMENTS

§336.211

STATUTORY AUTHORITY

The amendment is adopted under the Texas Radiation Control Act, THSC, Chapter 401; THSC, §401.011, which provides the commission authority to regulate and license the disposal of radioactive substances; §401.051, which authorizes the commission to adopt rules and guidelines relating to the control of sources of radiation; §401.103, which authorizes the commission to adopt rules and guidelines that provide for licensing and registration for the control of sources of radiation; §401.104, which requires the commission to provide rules for licensing for the disposal of radioactive material; and §401.412, which provides authority to the commission to regulate and license the disposal of radioactive substances and to adopt rules necessary to exercise this authority. The amendment is also adopted under Texas Water Code, §27.019, which requires the commission to adopt rules reasonably required for the performance of the commission's duties under the Injection Well Act. The adopted amendment is also authorized by Texas Water Code, §5.103, which provides the commission with the authority to adopt rules necessary to carry out its powers and duties under the Texas Water Code and other laws of the state.

The adopted amendment implements the Texas Radiation Control Act, THSC, Chapter 401; and the Injection Well Act, Texas Water Code, Chapter 27.

§336.211. General Requirements for Radioactive Material Disposal.

(a) Unless otherwise exempted, a licensee may 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 §336.223 of this title (relating to Disposal in Underground Injection Control Class I Injection Wells);

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

or

(9) 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;

(4) disposal at a land disposal facility; or

(5) disposal by injection in an underground injection control Class I injection well.

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

(d) The receipt, storage, and/or processing of radioactive materials, except for by-product material under the jurisdiction of the DSHS 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 may, 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 person who is specifically licensed under Subchapter H of this chapter.

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

§336.501

STATUTORY AUTHORITY

The amendment is adopted under the Texas Radiation Control Act, THSC, Chapter 401; THSC, §401.011, which provides the commission authority to regulate and license the disposal of radioactive substances; §401.051, which authorizes the commission to adopt rules and guidelines relating to the control of sources of radiation; §401.103, which authorizes the commission to adopt rules and guidelines that provide for licensing and registration for the control of sources of radiation; §401.104, which requires the commission to provide rules for licensing for the disposal of radioactive material; and §401.412, which provides authority to the commission to regulate and license the disposal of radioactive substances and to adopt rules necessary to exercise this authority. The amendment is also adopted under Texas Water Code, §27.019, which requires the commission to adopt rules reasonably required for the performance of the commission's duties under the Injection Well Act. The adopted amendment is also authorized by Texas Water Code, §5.103, which provides the commission with the authority to adopt rules necessary to carry out its powers and duties under the Texas Water Code and other laws of the state.

The adopted amendment implements the Texas Radiation Control Act, THSC, Chapter 401; and the Injection Well Act, Texas Water Code, Chapter 27.

§336.501. Scope and General Provisions.

(a) This subchapter establishes alternative criteria, terms, and conditions under which the commission may 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 may 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 person specifically authorized by law for low-level radioactive waste disposal. The commission may, 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 may 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.

(d) The commission may license the commercial disposal of naturally occurring radioactive material waste under Subchapter K of this chapter (relating to Commercial Disposal of Naturally Occurring Radioactive Material Waste from Public Water Systems).

SUBCHAPTER G: DECOMMISSIONING STANDARDS

§336.601

STATUTORY AUTHORITY

The amendment is adopted under the Texas Radiation Control Act, THSC, Chapter 401; THSC, §401.011, which provides the commission authority to regulate and license the disposal of radioactive substances; §401.051, which authorizes the commission to adopt rules and guidelines relating to the control of sources of radiation; §401.103, which authorizes the commission to adopt rules and guidelines that provide for licensing and registration for the control of sources of radiation; §401.104, which requires the commission to provide rules for licensing for the disposal of radioactive material; and §401.412, which provides authority to the commission to regulate and license the disposal of radioactive substances and to adopt rules necessary to exercise this authority. The amendment is also adopted under Texas Water Code, §27.019, which requires the commission to adopt rules reasonably required for the performance of the commission's duties under the Injection Well Act. The adopted amendment is also authorized by Texas Water Code, §5.103, which provides the commission with the authority to adopt rules necessary to carry out its powers and duties under the Texas Water Code and other laws of the state.

The adopted amendment implements the Texas Radiation Control Act, THSC, Chapter 401; and the Injection Well Act, Texas Water Code, Chapter 27.

§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, 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), and to naturally occurring radioactive material waste disposal facilities licensed under Subchapter K of this chapter (relating to Commercial Disposal of Naturally Occurring Radioactive Material Waste from Public Water Systems).

(b) This subchapter also establishes the criteria under which a facility may be licensed for decommissioning.

(c) After a site has been decommissioned and the license terminated in accordance with the criteria in this subchapter, the commission may require additional cleanup only if, based on new information, it determines that the criteria of this subchapter have not been met and residual radioactivity remaining at the site could result in significant threat to public health and safety.

(d) When calculating the total effective dose equivalent (TEDE) to the average member of the critical group, the licensee shall determine the peak annual TEDE expected within the first 1,000 years after decommissioning.

SUBCHAPTER K: COMMERCIAL DISPOSAL OF NATURALLY OCCURRING

RADIOACTIVE MATERIAL WASTE FROM PUBLIC WATER SYSTEMS

§§336.1001, 336.1003, 336.1005, 336.1007, 336.1009, 336.1011, 336.1013,

336.1015, 336.1017, 336.1019

STATUTORY AUTHORITY

The new sections are adopted under the Texas Radiation Control Act, THSC, Chapter 401; THSC, §401.011, which provides the commission authority to regulate and license the disposal of radioactive substances; §401.051, which authorizes the commission to adopt rules and guidelines relating to the control of sources of radiation; §401.103, which authorizes the commission to adopt rules and guidelines that provide for licensing and registration for the control of sources of radiation; §401.104, which requires the commission to provide rules for licensing for the disposal of radioactive material; and §401.412, which provides authority to the commission to regulate and license the disposal of radioactive substances and to adopt rules necessary to exercise this authority. The new sections are also adopted under Texas Water Code, §27.019, which requires the commission to adopt rules reasonably required for the performance of the commission's duties under the Injection Well Act. The adopted new sections are also authorized by Texas Water Code, §5.103, which provides the commission with the authority to adopt rules necessary to carry out its powers and duties under the Texas Water Code and other laws of the state.

The adopted new sections implement the Texas Radiation Control Act, THSC, Chapter 401; and the Injection Well Act, Texas Water Code, Chapter 27.

§336.1001. Scope and General Provisions.

This subchapter establishes additional criteria, terms, and conditions under which the commission may issue, amend, or renew a license for commercial disposal of naturally occurring radioactive material waste from public water systems by injection into Class I injection wells.

§336.1003. Definitions.

Most terms used in this subchapter are defined in §336.2 of this title (relating to Definitions). The following words and terms, when used in this subchapter, have the following meanings, unless the context clearly indicates otherwise.

(1) Commercial disposal - The disposal by well injection of naturally occurring radioactive material waste received by the licensee from other persons.

(2) Naturally occurring radioactive material waste disposal facility - The land, buildings, structures, and equipment that are used in the disposal of naturally occurring radioactive material (NORM) waste. This includes the land, buildings and structures, and equipment used for the receipt, storage, processing, or handling of NORM waste for purposes of disposal.

(3) Public water system - A public water system as defined in §290.38 of this title (relating to Definitions).

(4) Site - The contiguous land area where any naturally occurring radioactive material (NORM) waste disposal facility or activity is physically located or conducted including adjacent land used in connection with the land disposal facility or activity, and includes soils and groundwater contaminated by radioactive material. Activity includes the receipt, storage, processing, or handling of radioactive material for purposes of disposal at a NORM waste disposal facility.

§336.1005. Disposal Method.

A person licensed for the commercial disposal of naturally occurring radioactive material (NORM) waste from public water systems may dispose of NORM waste only by injection into a Class I injection well permitted under Chapter 331 of this title (relating to Underground Injection Control) that is specifically permitted for the disposal of NORM waste.

§336.1007. License Application for Commercial Disposal of Naturally Occurring Radioactive Material Waste.

(a) In addition to other application requirements of this title, an applicant for a license to authorize commercial disposal of naturally occurring radioactive material (NORM) waste shall submit:

(1) a projected inventory of radionuclides in the wastes to be disposed and the estimated concentration, specific activity, and total radioactivity by radionuclide;

(2) the estimated frequency and volume of each disposal;

(3) a description of waste packaging and other waste acceptance criteria;

(4) a detailed description of the nonradiological constituents in the waste (e.g., hazardous wastes, metals, absorbents, acids, and chelating agents), including the chemical and physical characteristics of the waste;

(5) a site characterization, including:

(A) the identification of all soil layers by classification according to the Unified Soil Classification System, as described in the American Society for Testing and Materials standard D2487, *Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System)*;

(B) a description of site stratigraphy from the surface to at least the base of the lower confining layer of the injection zone;

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

(D) a description of applicable site hydrogeological data including:

(i) identification of aquifers and confining units, including depths, saturated intervals, overall thicknesses, lithologies, and environments of deposition;

(ii) the processes of recharge and discharge of site groundwaters;

(iii) porosities and hydraulic conductivities; and

(iv) hydraulic gradients, flow directions, and flow velocities;

(E) identification of water wells within a one-mile radius of the facility, including location, use (e.g., commercial, livestock, drinking water, etc.), total depth, aquifer, and screened interval;

(F) a description and analysis of surface water and surface drainage areas, including the location and identification of surface water bodies and wetlands and uses, if any;

(G) a description and analysis of local meteorological data, including hourly, daily, and/or monthly averages of precipitation, evapotranspiration, temperature, wind speed and direction, relative humidity, and atmospheric stability over annual and quarterly periods;

(H) maps and cross sections, as follows:

(i) United States Geological Survey (USGS) 7.5-minute topographic map(s);

(ii) Bureau of Economic Geology (BEG) Geologic Atlas of Texas map(s), or other site-specific surface geology map;

(iii) United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) soil map, or other site soil map;

(iv) potentiometric surface maps of all aquifers; and

(v) structural cross sections along dip and strike;

(I) area resources (e.g., local land use, locations of nearby residences, etc.);

(J) site performance history, including erosion, flooding, subsidence, etc.; and

(K) a summary of any past disposals, including inventories of any radiological parameters, and any observed effects;

(6) a description of the proposed design and construction of the NORM waste disposal facility;

(7) a description of the proposed design and construction of the final closed NORM waste disposal facility and of proposed closure procedures;

(8) information on the depth of NORM waste disposal and proposed operational and safety procedures for disposal of NORM waste;

(9) proposed inspection, maintenance, and emergency procedures;

(10) 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) proposed radiation safety procedures during operations and closure. Proposed procedures must include:

(A) administrative procedures;

(B) operating procedures;

(C) radiation safety program, including procedures for posting restricted areas, procedures for conducting surveys and monitoring, procedures for respiratory protection, procedures

for worker protection and monitoring, and procedures for implementing controls to limit exposure in restricted areas;

(D) procedures for decontamination of equipment and facilities;

(E) industrial safety program; and

(F) quality assurance/quality control procedures;

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

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

(15) proposed recordkeeping procedures, including electronic recordkeeping as required in §336.1015 of this title (relating to Maintenance of Records and Reports);

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

(17) the applicant's justification for the proposed disposal method; and

(18) a decommissioning plan that meets the standards in Subchapter G of this chapter (relating to Decommissioning Standards) including an evaluation of the alternatives to disposing of NORM waste at a licensed NORM waste disposal facility.

(b) The applicant shall submit sufficient information to allow the executive director to assess the potential hazard to public health and safety and to determine whether the NORM waste disposal facility will have a significant impact on the environment as required under §336.1011 of this title (relating to Performance Objectives).

(c) The applicant shall provide any other information that may be requested by the executive director.

§336.1009. Standards for Issuance of a License, License Amendment, or License Renewal.

A license, license amendment, or license renewal for the receipt, storage, processing, and disposal of naturally occurring radioactive material (NORM) waste from public water systems may be issued by the commission upon finding that the issuance of the license will not constitute an unreasonable risk to the health and safety of the public or have a long-term detrimental impact on the environment and that:

(1) the applicant is qualified by reason of training and experience to carry out the disposal operations requested in a manner that protects public health and safety and the environment;

(2) the applicant's proposed NORM waste disposal facility siting, design, construction, operation, and closure are adequate to protect the public health and safety in that the facility will provide reasonable assurance that the general population will be protected from releases of radioactivity as specified under §336.1011 of this title (relating to Performance Objectives);

(3) the applicant has provided reasonable assurance that the applicable technical requirements of this chapter will be met;

(4) the financial assurance meets the requirements of this chapter;

(5) the location of the NORM waste disposal facility is compatible with the uses of surrounding environs (both the applicant's and adjacent properties'); and

(6) the applicant meets all additional applicable requirements under the rules of the commission.

§336.1011. Performance Objectives.

(a) The performance objectives of this section apply to the naturally occurring radioactive material (NORM) waste disposal facility and any underground source of drinking water, as defined in §331.2 of this title (relating to Definitions), that may be impacted by activities at the NORM waste disposal facility. The performance objectives of this section do not apply to NORM waste in the injection zone as defined in §331.2 of this title.

(b) Radiation exposure and release of radioactive materials from a NORM waste disposal facility must be maintained as low as is reasonably achievable (ALARA). Concentrations of radioactive material that may be released to the general environment in groundwater, surface water, air, soil, plants, or animals must not result in an annual dose above background exceeding an equivalent of 25 millirems to the whole body, 75 millirems to the thyroid, or 25 millirems to any other organ of any member of the public.

(c) Operations at the NORM waste disposal facility must be conducted in compliance with the standards for radiation protection set out in Subchapter D of this chapter (relating to Standards for Protection Against Radiation), except for releases of radioactivity in effluents from the NORM waste disposal facility, which are governed by subsection (b) of this section. Analyses of the protection of individuals during operations must include assessments of expected doses due to routine operations and potential accidents during handling, storage, processing, and disposal of NORM waste.

(d) The location and characteristics of a NORM waste disposal facility must preclude potential off-site migration or transport of radioactive materials or ready access to critical exposure pathways.

(e) Pathways analyzed in demonstrating protection of the general population from releases of radioactivity must include air, soil, groundwater, surface water, plant uptake, and exhumation by animals.

(f) A NORM waste disposal facility for which authorization is requested under this subchapter must be located, designed, constructed, operated, and closed so that long-term isolation and custodial care for long-term stability will not be required beyond the time the licensee occupies the NORM waste disposal facility.

§336.1013. Terms and Conditions of License.

(a) At any time before termination of the license, the licensee shall submit written statements under oath upon request of the commission or executive director to enable the commission to determine whether or not the license should be modified, suspended, or revoked.

(b) The licensee is subject to the applicable provisions of Texas Health and Safety Code, Chapter 401, also known as the Texas Radiation Control Act (TRCA) now or hereafter in effect and to applicable rules and orders of the commission. The terms and conditions of the license are subject to amendment, revision, or modification, by reason of amendments to the TRCA or by reason of rules and orders issued in accordance with terms of the TRCA.

(c) Any license may be revoked, suspended, or modified, in whole or in part, for any material false statement in the application or any statement of fact required under provisions of the TRCA, or because of conditions revealed by any application or statement of fact or any report, record, or inspection or other means that would warrant the commission to refuse to grant a license on the original application, or for failure to operate the naturally occurring radioactive material (NORM) waste disposal facility in accordance with the terms of the license, or for any violation of or failure to observe any of the terms and conditions of the TRCA or the license or of any rule or order of the commission.

(d) Each person licensed by the commission under this subchapter shall confine possession and use of NORM waste to the locations and purposes authorized in the license.

(e) The licensee may not dispose of NORM waste at a NORM waste disposal facility until the licensee has submitted to the executive director by certified mail or hand delivery a letter signed by the licensee and a Texas licensed professional engineer stating that the NORM waste disposal facility has been constructed in compliance with the license and the application and the executive director has inspected the NORM waste disposal facility and finds it is in compliance with the conditions of the license and the application.

(f) The licensee may not receive NORM waste for disposal at the NORM waste disposal facility until the executive director has approved the licensee's financial assurance in writing.

(g) The commission may incorporate in any license at the time of issuance, or thereafter, by appropriate rule or order, additional requirements and conditions with respect to the licensee's receipt, possession, and disposal of waste as it deems appropriate or necessary in order to:

(1) protect the health and safety of the public and the environment; or

(2) require reports and recordkeeping and to provide for inspections of activities under the license that may be necessary or appropriate to effectuate the purposes of the TRCA and the rules adopted under the TRCA.

(h) Each license may be issued for an initial term of ten years from the date of issuance. After the initial ten years, the commission may renew the license for one or more terms of ten years. The authority to dispose of radioactive material expires on the date stated in the license. In any case in which a licensee has timely filed an application for renewal of a license, the authority for continued receipt and disposal of licensed materials does not expire until the commission has taken final action on the application for renewal.

§336.1015. Maintenance of Records and Reports.

(a) Each licensee shall maintain any records and submit any reports 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 must be submitted to the executive director or

commission upon request. All records and reports required by the license, rules, or orders must be complete and accurate.

(b) Records that are required by the rules in this chapter or by license conditions must be maintained for a period specified by the appropriate rules or by license condition. If a retention period is not otherwise specified, these records must be maintained and transferred to the executive director as specified in subsection (e) of this section as a condition of license termination unless the executive director otherwise authorizes their disposition.

(c) Each record required by this chapter must be legible throughout the specified retention period. The record must 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, must include all pertinent information, such as stamps, initials, and signatures. The licensee shall maintain adequate safeguards against tampering with and the loss of records.

(d) 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.

(e) Notwithstanding subsections (a) - (d) of this section, the licensee shall record the location, the quantity of wastes, and the radioactivity content by radionuclide of waste disposed and shall transfer these records upon license termination to the executive director and to such other government agencies or officials as designated by the commission.

(f) The licensee shall maintain copies of waste manifests of shipments received at the disposal facility. Following receipt and acceptance of a shipment of naturally occurring radioactive material (NORM) waste, the licensee shall record the date that the shipment was received at the disposal facility; the date of disposal of the NORM waste; a traceable shipment manifest number; the containment integrity of the NORM waste disposal containers as received; any discrepancies between materials listed on the manifest and those received; the volume of any pallets, bracing, or other shipping materials, or of materials generated on site, that are contaminated and are disposed of as contaminated or suspect materials; and any evidence of leaking or damaged disposal containers or radiation or contamination levels in excess of limits specified in rules of the United States Department of Transportation or the Department of State Health Services. The licensee shall briefly describe any repackaging operations of any of the disposal containers included in the shipment, plus any other information required by the commission as a license condition. The licensee shall retain these records until the commission transfers or terminates the license that authorizes the activities described in this section.

(g) Each licensee authorized to dispose of NORM waste received from other persons shall file a copy of its financial report or a certified financial statement annually with the executive director in order to update the information base for determining financial qualifications.

(h) Annual reports must be submitted.

(1) Each licensee authorized to dispose of NORM waste received from other persons under this subchapter shall submit annual reports to the executive director. Reports must be submitted by the end of the first calendar quarter of each year for the preceding year.

(2) The annual reports must include:

(A) specification of the quantity of each radionuclide released to unrestricted areas in liquid and in airborne effluents during the preceding year;

(B) the results of the environmental monitoring program;

(C) a summary of radioactivities and quantities of radionuclides disposed of;

(D) any instances in which observed site characteristics were significantly different from those described in the application for a license; and

(E) any other information that the executive director may require.

(3) If the quantities of radioactive materials released during the reporting period, monitoring results, or maintenance performed are significantly different from those expected in the

documents previously reviewed as part of the licensing action, the annual report must cover this specifically.

(i) An electronic recordkeeping system must be maintained. In addition to the other requirements of this section, the licensee shall store, or have stored, manifest and other information pertaining to receipt and disposal of NORM waste in an electronic recordkeeping system that is available for review by commission inspectors.

§336.1017. Tests at Naturally Occurring Radioactive Material Waste Disposal Facilities.

Each licensee shall perform or allow the executive director to perform any tests that the executive director deems appropriate or necessary for the administration of the rules in this chapter during normal working hours, including tests of:

(1) wastes and facilities used for the receipt, storage, processing, handling, and disposal of wastes;

(2) radiation detection and monitoring instruments; and

(3) other equipment and devices used in connection with the receipt, possession, handling, processing, storage, or disposal of waste.

§336.1019. Liability Coverage and Funding for Naturally Occurring Radioactive Material Waste Disposal Facility Closure and Stabilization.

(a) The applicant shall provide assurance 60 days prior to the initial receipt of waste that sufficient funds will be available to carry out closure and stabilization of the naturally occurring radioactive material (NORM) waste disposal facility, including:

(1) decontamination or dismantlement of NORM waste disposal facility structures;

(2) disposal of any radioactive material remaining at the NORM waste disposal facility at closure; and

(3) closure and stabilization of the NORM waste disposal facility so that the site may be released for unrestricted use.

(b) The assurance must be based on cost estimates approved by the executive director that reflect the approved plan for closure and stabilization of the NORM waste disposal facility. The applicant's cost estimates must take into account total costs that would be incurred if an independent contractor were hired to perform the closure and stabilization work.

(c) Financial assurance mechanisms submitted to comply with subsection (a) of this section must meet the requirements specified in Chapter 37, Subchapter S of this title (relating to Financial Assurance for Radioactive Material). The licensee's financial assurance mechanism and cost estimates must be reviewed by the executive director annually to assure that sufficient funds are available for completion of the closure plan, assuming that the work has to be performed by an independent contractor.

(d) The amount of financial assurance must be adjusted as required to meet the predicted cost of future closure and stabilization. Factors affecting cost estimates for closure and stabilization include inflation, increases in the amount of disturbed land, changes in engineering plans, closure and stabilization that have already been accomplished, and any other conditions affecting costs. The closure

amount must be at least sufficient at all times to cover the costs of closure of the NORM waste disposal facility.

(e) Sixty days prior to the initial receipt of NORM waste, the licensee shall establish and maintain financial assurance for liability coverage for sudden and nonsudden bodily injury and property damage to third parties caused by accidental occurrences arising from operations of the NORM waste disposal facility that meets the requirements of this subsection, in addition to the requirements specified under Chapter 37, Subchapters A, E, F, and G of this title (relating to General Financial Assurance Requirements; Financial Assurance Requirements for Liability Coverage; Financial Assurance Mechanisms for Liability; and Wording of the Mechanisms for Liability, respectively).

(1) A licensee shall establish and maintain liability coverage for sudden accidental occurrences in the amount of at least \$1 million per occurrence with an annual aggregate of at least \$2 million, exclusive of legal defense costs.

(2) A licensee shall establish and maintain liability coverage for nonsudden accidental occurrences in the amount of at least \$3 million per occurrence with an annual aggregate of at least \$6 million, exclusive of legal defense costs.

(3) A licensee who combines coverage for sudden and nonsudden accidental occurrences shall maintain liability coverage in the amount of at least \$4 million per occurrence and \$8 million annual aggregate.

(4) A licensee may use any of the mechanisms specified in Chapter 37, Subchapter F of this title to demonstrate financial assurance for sudden and nonsudden liability.

(5) A licensee may not use a claims-made insurance policy as security unless the licensee places in escrow, as provided by the executive director, an amount sufficient to pay an additional year of premium for renewal of the policy by the state on notice of termination of coverage.