

The Texas Commission on Environmental Quality (TCEQ, agency, commission) proposes new §336.227.

Background and Summary of the Factual Basis for the Proposed Rule

The commission proposes this rule to establish an exemption from the TCEQ low-level radioactive waste (LLRW) licensing requirements for the disposal of certain radioactive tracers used in the exploration, development or production of oil and gas resources. On October 8, 2012, the executive director received a Petition for Rulemaking request from Baker Botts L.L.P., on behalf of ProTechnics Division of Core Laboratories LP.

ProTechnics provides oil and gas diagnostic services to well operators to optimize reservoir performance and maximize hydrocarbon recovery from producing fields.

These services include the use of radioactive tracers that are introduced into hydraulic fracturing fluids that enable well operators to take well log measurements to identify the intervals where the fluids are placed. ProTechnic's petition requested that the commission establish an exemption in rule for the disposal of the radioactive tracers used in the hydraulic fracturing operations. After considering the petition on December 5, 2012, the commission directed the executive director to initiate this rulemaking.

Occasionally, the fracking fluids and tracer material can be released back out of the well during a "sandout" and is returned to the surface. The Texas Department of State Health Services (DSHS) and the Railroad Commission of Texas (RRC) have authorized

the disposal of the returned material in earthen pits at the well site or in a Class II injection well. The DSHS granted this exemption under Texas Health and Safety Code (THSC), §106.106(a) through the radioactive material license issued by DSHS to authorize the use of radioactive tracers for disposal in the earthen pits and in 25 TAC §289.253(u)(3) for disposal in a Class II injection well. Both of these exemptions have also been granted on the radioactive material licenses issued by the Nuclear Regulatory Commission (NRC). In 2007, Senate Bill 1604 of the 80th Legislature conferred TCEQ with the authority to exempt a source of radiation from the licensing requirements under the TCEQ's jurisdiction. Because the commission has jurisdiction over the disposal of radioactive substances in THSC, §401.011(b)(1), the authority to exempt radioactive substances from disposal requirements in THSC, §401.106(a) rests with the commission.

An analysis by DSHS and the NRC determined that the disposal of the radioactive tracers would not result in a significant risk to public health and safety or to the environment. The radioactive tracers have a half-life of less than 120 days and are in a form that will not leach into and migrate with the groundwater. The on-site disposal pits must be covered with at least two feet of clean soil. The commission has reviewed various pit disposal dose models, including worst-case-scenarios, that show that the total effective dose equivalent to individual members of the public from the closed pit is well below the 0.1 rem per year dose limit. Class II injection wells are permitted by the

RRC after a determination that groundwater and surface water are protected from pollution. According to the petition, the disposal of radioactive tracers in earthen pits has occurred without any reported or known harm to public health and safety or the environment since May 12, 1992. The commission agrees with the determinations of both the DSHS and the NRC and finds that the proposed exemption for the on-site pit disposal and Class II injection well disposal of the tracers will not constitute a significant risk to the public health and safety and the environment.

Section Discussion

The commission proposes new §336.227 to exempt radioactive tracers from the radioactive licensing and disposal rules in Chapter 336 if the waste meets the criteria specified in §336.227(b): 1) the possession, transportation, and use of the radioactive tracers are licensed or otherwise authorized by the DSHS; 2) the tracers are in fluids that have been retrieved from a well that is used in the exploration, development, or production of oil, gas, or geothermal resources and the well is authorized by the RRC; 3) total concentration of radioactivity for all isotopes does not exceed 1,000 picocuries per gram (pCi/g), the half-life of each isotope is 120 days or less; and 4) the radioactive tracers are non-water soluble.

Section 336.227(c) would authorize the disposal of qualifying radioactive tracer material in an on-site shallow earthen pit that is permitted by the RRC for the disposal of oil and

gas waste with at least two feet of clean soil, or by §336.227(d) in a Class II injection well permitted by the RRC if the permit specifically authorizes disposal of radioactive tracers.

Section 336.227(e) will require any person who disposes of radioactive tracers under this proposed rule to maintain records related to the disposal. This new rule will exempt disposal of radioactive tracer material in shallow earthen pits as provided in DSHS radioactive material licenses for the possession and use of radioactive tracers and for disposal in Class II injection wells as provided in 25 TAC §289.253(u)(3).

Fiscal Note: Costs to State and Local Government

Nina Chamness, Analyst in the Strategic Planning and Assessment Section, has determined that for the first five-year period the proposed rule is in effect, no significant fiscal implications are anticipated for the agency and no fiscal implications are anticipated for the RRC or other units of state or local government as a result of administration or enforcement of the proposed rule. The proposed rule affects licensing requirements for radioactive tracer material used in oil and gas production, development, or exploration activities. The proposed rulemaking is not expected to change current licensing or disposal standards or procedures for the agency or for the RRC and therefore is not expected to affect either agency. The only costs expected for the agency are associated with the proposal and/or adoption of the rule and are not expected to be significant.

The proposed rule would amend Chapter 336 to: exempt radioactive tracer material used in oil, gas, or geothermal exploration, development, and/or production operations from the agency's radioactive waste licensing and disposal requirements; establish the criteria for exempted radioactive tracer waste; and require record maintenance related to the disposal of such waste. The proposed rule is in response to a petition received by the agency to exempt certain radioactive tracer materials from LLRW rules as previously exempted by DSHS when the DSHS had exclusive authority to exempt a source of radiation from licensing requirements prior to June 18, 2007 and the enactment of SB 1604. Exemption of radioactive tracer materials from the agency's LLRW rules would continue to allow the petitioner to dispose of the waste per the authorization and permitting process of the RRC.

According to RRC rules, radioactive tracer material can be disposed of by either burying the waste in shallow earthen pits with a two-foot cover or by injecting the waste into a Class II injection well (if a RRC permit specifically authorizes the disposal of radioactive tracers). Both of these disposal methods are currently in use without any reported or known harm to public health, public safety, or the environment. The NRC has also recently authorized the petitioner to dispose of these radioactive tracers using these two options. The agency agrees that RRC authorized disposal methods are safe because the radioactive tracers used in oil, gas, or geothermal exploration, development, and/or

production operations have a half-life of less than 120 days and are in a form that will not leach or migrate into groundwater. Worst-case-scenarios of pit disposal methods show that the potential exposure to individuals from disposal in a closed pit is well below the 0.1 rem per year dose limit. Class II injection wells are permitted only after the RRC determines that groundwater and surface waters are protected from pollution.

Public Benefits and Costs

Nina Chamness also determined that for each year of the first five years the proposed new rule is in effect, the public benefit anticipated from the changes seen in the proposed rule will be to continue to provide an affordable method of waste disposal for oil and gas production and exploration companies who use radioactive tracers which is consistent with previous state authorized methods of disposal.

The proposed rule is not expected to have fiscal implications for individuals in general, but would affect businesses who are involved in oil, gas, or geothermal exploration, development, and/or production operations.

The proposed rule would continue to exempt radioactive tracer waste from the LLRW disposal rules and continue the practice of disposing of the waste in earthen pits or Class II injection wells as permitted by the RRC. If the proposed rulemaking is not adopted, then the radioactive tracer waste would be classified as LLRW. Waste classified as

LLRW would have to be either disposed of in the Texas Compact LLRW disposal facility in Andrews County or at the LLRW disposal facility in Clive, Utah. Either of these options would result in additional costs for disposal. Disposal costs to oil and gas production or exploration companies could range from \$124 to \$158 per cubic foot of waste over costs for current disposal methods.

Small Business and Micro-Business Assessment

No adverse fiscal implications are anticipated for small or micro-businesses as a result of the administration or enforcement of the proposed rule. Of the 19 companies who are licensed to use radioactive tracers, 14 are thought to be small or micro-businesses. The proposed rule is not expected to result in changes to current practices or procedures and, therefore are not expected to result in any fiscal implications for these businesses. If the proposed rulemaking is not adopted, then the radioactive tracer waste would be classified as LLRW and disposal costs would increase to an estimated \$124 to \$158 per cubic foot of waste over costs for current disposal methods.

Small Business Regulatory Flexibility Analysis

The commission has reviewed this proposed rulemaking and determined that a small business regulatory flexibility analysis is not required because the proposed rule does not adversely affect a small or micro-business in a material way for the first five years that the proposed rule is in effect.

Local Employment Impact Statement

The commission has reviewed this proposed rulemaking and determined that a local employment impact statement is not required because the proposed rule does not adversely affect a local economy in a material way for the first five years that the proposed rule is in effect.

Draft Regulatory Impact Analysis Determination

The commission reviewed the proposed rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and determined that the rulemaking is not subject to Texas Government Code, §2001.0225 because it does not meet the definition of a "major environmental rule" as defined in the act. "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 new rule is 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 the proposed new rule exempts from TCEQ licensing requirements disposal of certain radioactive materials, whose possession, use and transportation are authorized

by the DSHS and whose disposal is authorized by the RRC as oil and gas waste. The commission proposes this rule to exempt minimal amounts of DSHS licensed radioactive tracers used in the exploration, development or production of oil and gas resources from the TCEQ low-level radioactive licensing and disposal requirements. In order to exempt these radioactive materials the commission finds that the exemption will not constitute a significant risk to the public health and safety and the environment. Radioactive tracers that are not eligible for an exemption would have to be disposed of as LLRW.

Furthermore, the proposed rulemaking does not meet any of the four applicability requirements listed in Texas Government Code, §2001.0225(a). Texas Government Code, §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. The proposed rulemaking does not exceed a standard set by federal law, an express requirement of state law, a requirement of a delegation agreement, nor adopt a rule solely under the general powers of the agency.

THSC, Chapter 401, authorizes the commission to regulate the disposal of most radioactive material in Texas. THSC, §401.106(a) authorizes the commission to adopt rules to exempt a source of radiation from the licensing requirements of the Texas Radiation Control Act if the commission finds that the exemption of the source of radiation will not constitute a significant risk to the public health and safety and the environment. In addition, the state of Texas is an "Agreement State," authorized by the NRC to administer a radiation control program under the Atomic Energy Act. The proposed rule does not exceed a standard set by federal law. The proposed rulemaking implements an exemption that is consistent with exemptions approved by the NRC for the disposal of radioactive tracers.

The proposed rule does not exceed an express requirement of state law. THSC, Chapter 401 establishes general requirements for the licensing and disposal of radioactive materials. THSC, §401.106 specially authorizes the commission to exempt a source of radiation from the requirements to obtain a license for disposal.

The commission has also determined that the proposed rule does not exceed a requirement of a delegation agreement or contract between the state and an agency of the federal government. The State of Texas has been designated as an "Agreement State" by the NRC under the authority of the Atomic Energy Act. The Atomic Energy

Act requires that the NRC find that the state radiation control program is compatible with the NRC's requirements for the regulation of radioactive materials and is adequate to protect health and safety. The commission determined that the proposed rule does not exceed the NRC's requirements nor exceed the requirements for retaining status as an "Agreement State."

The commission also determined that these rules are proposed under specific authority of THSC, Chapter 401. THSC, §§401.051, 401.103, 401.104, and 401.106 authorize the commission to adopt rules for the control of sources or radiation and the licensing and exemption of the disposal of radioactive materials.

The commission invites public comment of the draft regulatory impact analysis determination. Written comments on the draft regulatory impact analysis determination may be submitted to the contact person at the address listed under the Submittal of Comments section of this preamble.

Takings Impact Assessment

The commission evaluated the proposed rule and performed a preliminary assessment of whether the proposed rule constitutes a taking under Texas Government Code, Chapter 2007. The commission's preliminary assessment is that implementation of the proposed rule would not constitute a taking of real property. The purpose of the

proposed rule is to exempt minimal amounts of DSHS-licensed radioactive tracers used in the exploration, development or production of oil and gas resources from the TCEQ low-level radioactive licensing and disposal requirements. The proposed rule would substantially advance this purpose by implementing new provisions in rule to establish the requirements for eligibility of the exemption. To qualify for the exemption, the use, possession and transportation of the radioactive material must be authorized by the DSHS and the disposal of the oil and gas waste must be authorized by the RRC. No requirements are imposed by the commission in the proposed rule that would constitute a taking of real property.

Promulgation and enforcement of the proposed rule would be neither a statutory nor a constitutional taking of private real property. The proposed rule does not affect a landowner's rights in private real property because this rulemaking does not burden (constitutionally), nor restrict or limit, the owner's right to property and reduce its value by 25% or more beyond which would otherwise exist in the absence of the rule. The proposed rule establishes an exemption from commission licensing and disposal for certain activities authorized by the DSHS and the RRC.

Consistency with the Coastal Management Program

The commission reviewed this proposed rulemaking action and determined that the proposed rule is neither identified in, nor will it affect, any action/authorization

identified in Coastal Coordination Act Implementation Rules in 31 TAC §505.11, relating to Actions and Rules Subject to the Texas Coastal Management Program (CMP).

Therefore, the proposed rulemaking action is not subject to the CMP.

Written comments on the consistency of this rulemaking may be submitted to the contact person at the address listed under the Submittal of Comments section of this preamble.

Announcement of Hearing

The commission will hold a public hearing on this proposal in Austin on March 5, 2013, at 10:00 a.m. in Building E, Room 201S, at the commission's central office located at 12100 Park 35 Circle. The hearing is structured for the receipt of oral or written comments by interested persons. Individuals may present oral statements when called upon in order of registration. Open discussion will not be permitted during the hearing; however, commission staff members will be available to discuss the proposal 30 minutes prior to the hearing.

Persons who have special communication or other accommodation needs who are planning to attend the hearing should contact Sandy Wong, Office of Legal Services at (512) 239-1802. Requests should be made as far in advance as possible.

Submittal of Comments

Written comments may be submitted to Bruce McAnally, MC 205, Office of Legal Services, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087, or faxed to (512) 239-4808. Electronic comments may be submitted at: <http://www5.tceq.texas.gov/rules/ecomments/>. File size restrictions may apply to comments being submitted via the eComments system. All comments should reference Rule Project Number 2013-010-336-WS. The comment period closes March 18, 2013. Copies of the proposed rulemaking can be obtained from the commission's Web site at http://www.tceq.texas.gov/nav/rules/propose_adopt.html. For further information, please contact Hans Weger, Radioactive Material Division, at phone (512) 239-6465.

**SUBCHAPTER C: GENERAL LICENSING
REQUIREMENTS**
§336.227

Statutory Authority

The new rule is proposed under the Texas Radiation Control Act, Texas Health and Safety Code (THSC), Chapter 401; THSC, §401.011, which provides the commission authority to regulate and license the disposal of radioactive substances, the commercial processing and storage of radioactive substances, and the recovery and processing of source material; §401.051, which authorizes the commission to adopt rules and guidelines relating to 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 substances; §401.106, which authorizes the commission to adopt rules to exempt a source of radiation from the licensing requirements provided by the Texas Radiation Control Act. The proposed new rule 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 water code and other laws of the state.

The proposed new rule implements THSC, Chapter 401, relating to Radioactive Materials and Other Sources of Radiation, including §401.011, relating to Radiation Control Agency; §401.051, relating to Adoption of Rules and Guidelines; §401.057,

relating to Records; §401.103, relating to Rules and Guidelines for Licensing and Registration; §401.104, relating to Licensing and Registration Rules; §401.106, relating to Exemption from Licensing Requirements; and §401.412, relating to Commission Licensing Authority.

§336.227. Radioactive Tracers Used in the Exploration, Development or Production of Oil or Gas or Geothermal Resources.

(a) Disposal of radioactive tracer materials used in the exploration, development or production of oil or gas or geothermal resources is exempt from licensing requirements for the disposal of radioactive substances under this chapter if the radioactive tracer materials are disposed of in accordance with this section.

(b) Radioactive tracers are eligible for exemption under this section if:

(1) the possession, transportation, and use of the radioactive tracers are licensed or otherwise authorized by the Texas Department of State Health Services;

(2) the non-water soluble radioactive tracers are in fluids that have been retrieved from a well used in the exploration, development or production of oil or

gas or geothermal resources and such well is permitted or otherwise authorized by the Railroad Commission of Texas;

(3) the total concentration of radioactivity for all isotopes disposed does not exceed 1,000 picocuries per gram (pCi/g), and the half-life of each isotope is 120 days or less; and

(4) the radioactive tracers are non-water soluble.

(c) A person may dispose of radioactive tracers that are eligible for exemption under subsection (b) of this section in an on-site disposal pit that is permitted by the Railroad Commission of Texas for the disposal of oil and gas waste and is covered by at least two feet of clean soil.

(d) A person may dispose of radioactive tracers that are eligible for exemption under subsection (b) of this section in a Class II injection well permitted by the Railroad Commission of Texas for the disposal of oil and gas waste if the permit specifically authorizes the disposal of radioactive tracers.

(e) Any person who disposes of radioactive tracers exempted from licensing requirements under this section must maintain records related to the disposal.

including method and location of disposal, identity of specific isotopes, estimated volume of the radioactive tracers, and total concentration of radioactivity for the isotopes disposed, and dates of disposal. The executive director may request records related to disposal of tracer materials under this section at any time.