

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Commissioners **Date:** September 12, 2003

Thru: LaDonna Castañuela, Chief Clerk
Margaret Hoffman, Executive Director

From: Randolph Wood, Deputy Director
Office of Environmental Policy, Analysis, and Assessment

Subject: Consideration of a Petition for Proposed Rulemaking

Docket No.: 2003-0744-RUL

Rule Log No.: 2003-067-PET-WS

Who Submitted the Petition:

Mr. Michael L. Woodward, attorney representing Newpark Resources (Newpark), submitted a petition for rulemaking to the Executive Director in a letter dated August 5, 2003.

What the Petitioner Requests:

The petitioner requests that Commission rules be amended to allow commercial disposal of naturally occurring radioactive material (NORM) in Class I injection wells, located at facilities in which the storage and processing of such material is licensed by the Texas Department of Health (TDH) - Bureau of Radiation Control. The petitioner also requests amendments to the Memorandum of Understanding (MOU) with the TDH to reflect that the TDH is authorized to regulate the storage and processing of NORM waste that will be disposed of at a commercial injection well facility. Currently the MOU provides that the receipt, storage, and/or processing of radioactive substances received by a TCEQ licensee at a commercial radioactive substance disposal facility for the explicit purpose of disposal at that facility shall be regulated by the TCEQ. The petitioner supports the request by identifying various generators of NORM waste that would be able to send waste to a commercial disposal facility.

Background:

Under the Administrative Procedures Act and 30 TAC Chapter 20, the Commission must either deny the petition, stating in writing the reasons for the denial, or initiate rulemaking proceedings. Regarding the proposed rule changes, the Commission has the authority and discretion to grant or deny the relief requested by the petitioner. The proposed changes to the MOU would require action by both TCEQ and TDH to effectuate the relief requested. Granting the relief requested would necessitate the development of additional rules to ensure that the proposed method of commercial disposal of NORM is protective of occupational and public health and safety and the environment.

The TCEQ has authority to license the disposal of non-oil and gas NORM under Texas Health and Safety Code, §401.412. Under current Commission rules, however, commercial disposal of radioactive materials, including NORM, is prohibited. 30 Texas Administrative Code (TAC) §336.501(c). Subchapter F of 30 TAC Chapter 336 addresses on-site land burial of radioactive

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material but does not address requirements for deep well injection for commercial radioactive material disposal. The existing performance standard in 30 TAC §336.513(c)(2) would not be suitable for an injection operation because it precludes potential offsite migration or transport of radioactive materials at a disposal site. Newpark is requesting that rules be modified to allow the commercial disposal of NORM in Class I injection wells. Commercial radioactive material disposal rules specific to deep well injection, in addition to the rules specifically identified by Newpark, would have to be adopted to allow this activity. Specific technical criteria necessary to evaluate commercial NORM disposal license applications would have to be developed. New rules in 30 TAC Chapter 336 would be required to address the commercial nature of the activity, such as waste acceptance criteria, waste characterization and analysis, and waste compatibility. Performance objectives suitable for injection well disposal would be necessary to ensure that potential radiation exposures and releases of radioactive materials are as low as is reasonably achievable.

Injection of non-oil and gas NORM into a Class I injection well can be a viable method of disposal that will be protective of human health and the environment, although additional work will need to be done to develop appropriate standards. TCEQ permitted Class I well injection is used for the disposal of uranium by-product waste at uranium solution-mining sites licensed by the TDH; injection wells are also used for the disposal of oil and gas NORM waste, permitted by the Railroad Commission of Texas. The disposal of NORM by Class I well injection would require a TCEQ Class I injection well permit as well as a TCEQ radioactive material disposal license. Evaluation of an injection well permit application under Texas Water Code Chapter 27 and 30 TAC Chapter 331 includes reviews of the suitability of the site for injection activities; design and construction of the well; waste analysis for compatibility with the well and injection formation; operating, monitoring, maintenance, and closure plans; and financial assurance for closure of the well.

Recommendations:

The Executive Director recommends that the Commission initiate rulemaking to consider authorizing licensing of commercial disposal of NORM waste streams from public drinking water systems, by all methods of disposal, including injection and land application, or any other methods determined to be appropriate. The U.S. Environmental Protection Agency has adopted federal standards for radionuclides in drinking water; some public drinking 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. Recently, the commission delayed the proposal of this rule for one year, in part to allow staff to further evaluate the feasibility of disposal options in response to stakeholder concerns. This petition presents the opportunity for the commission to refine its efforts as it relates to potential options for the commercial disposal of NORM and to be responsive to these stakeholder concerns. Commercial NORM disposal, including deep well injection and other disposal methods, may provide new options for public drinking water systems dealing with NORM waste.

With respect to the MOU with TDH, the Executive Director does not recommend that the MOU be modified as requested by the petitioner. The existing MOU ensures that radioactive substances that are stored, received and/or processed for the explicit purpose of disposal meet TCEQ disposal

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requirements. Further, the requested revision to the MOU may result in reviewing UIC injection well permits for NORM disposal differently than all other UIC injection well permits.

Options:

The following options are provided for your consideration:

- The Commission may initiate rulemaking to authorize, in whole or in part, the following options listed which are listed in order of expanding scope:
 - 1) Licensing of commercial disposal of NORM only in Class I injection wells for waste streams from public drinking water systems only;
 - 2) Licensing of commercial disposal of NORM only in Class I injection wells;
 - 3) Licensing of commercial disposal of NORM by all methods, including injection, land application, and other methods determined to be appropriate for waste streams from public drinking water systems;
 - 4) Licensing of commercial disposal of NORM for all methods, including injection, land application, and other methods as determined to be appropriate; or
 - 5) Licensing of commercial and non-commercial disposal of NORM waste streams.
- The Commission may deny the petition. Reasons to deny the petition may include that additional evaluation of this issue is merited. The Commission may then direct the ED's staff to conduct a focused investigation on the need for a commercial NORM disposal option for potential generation sources, including waste streams from public drinking water systems. This evaluation would include a comprehensive characterization of potential waste streams and the current method of disposal being utilized by NORM generators. Staff could return to the Commissioners with the results of the investigation.

Regarding the request to revise the MOU, the following options are provided for your consideration:

- Amend the MOU, in concert with the TDH, so that TDH is authorized to regulate the storage and processing of radioactive substances at TCEQ-licensed disposal facilities;
- Amend the MOU so that TDH is authorized to regulate the storage and processing of only at TCEQ-licensed disposal facilities for NORM, not at TCEQ-licensed disposal facilities for other types of radioactive substances including low-level radioactive waste.
- Do not amend the MOU.

Additional considerations related to options for initiating rulemaking or denying petition:

- There are pros and cons associated with each of the options set forth under initiation of rulemaking. For instance, generally HB 1567 relating to disposal of low level radioactive

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waste, requires the commission to give priority to the review of the low level radioactive waste disposal application over all other radioactive materials licensing matters pending before the commission. Working on NORM rules may affect the efficient implementation of this mandated activity.

- If the rules were amended to authorize commercial NORM disposal by deep well injection only, other disposal facilities interested in NORM disposal may challenge any rules which limit commercial disposal to Class I injection wells as unfairly limiting other suitable disposal techniques and unfairly limiting the options for generators of NORM waste. However, other disposal facilities could petition for rulemaking to address alternative methods of commercial disposal of NORM.
- As background, a needs assessment for commercial NORM disposal in Texas was performed by the TCEQ in 1999; however, less than one percent of the surveys were returned. It was decided that there was not sufficient interest from the regulated community to pursue rulemaking at that time. Since then, the U.S. Environmental Protection Agency has adopted federal standards for radionuclides in drinking water. Some public drinking water systems in Texas will be affected by the federal standards. At this time, TCEQ staff is continuing to collect information on the systems that may be treating their drinking water for radionuclides and characteristics of potential NORM wastes that may be generated by treatment.
- Unlike low-level radioactive waste, NORM waste is not subject to an interstate compact, which can exercise control over the import and export of waste. There is no prohibition or state control of the importation of NORM waste into Texas. Therefore, licensing the commercial disposal of NORM could include disposal of NORM from both Texas generators and out-of-state generators, including the federal government. The large majority of the NORM waste in the United States is generated near the East Coast.
- The NORM waste stream from the federal government is not identified in this petition. With respect to radioactive waste from the federal government, the 78th Texas Legislature passed limitations on the types and volumes of low-level radioactive waste from the federal government that could be accepted for commercial disposal in Texas. It is anticipated that federal waste would be a primary market for commercial NORM disposal in Texas, with mixed waste also being a large part of the waste stream. One potential component of federal waste is from Formerly Utilized Sites Remedial Action Program (FUSRAP) sites. In the 1940s, 1950s, and 1960s, federal employees performed work in support of the nation's early atomic energy program at some 46 sites in 14 states. None of these sites existed in Texas. The U.S. Army Corps of Engineers, which was transferred responsibility for these sites in 1997, has made commitments to the states where these sites are located that they will be remediated in a timely fashion. NORM waste streams from the federal government are difficult to characterize and project and can be highly variable in terms of the radioactivity concentration, the physical form of the waste, the chemical form of the waste, and the addition of other hazardous constituents.
- The disposal technique currently used in the United States for commercial non-oil and gas NORM is landfill disposal. There are no existing commercial deep well injection facilities in the United States for non-oil and gas NORM disposal.

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Additional considerations relating to options for amending the MOU:

- Section 401.414 of the Health and Safety Code provides that the TCEQ and TDH by rule shall adopt a MOU defining their respective duties under this chapter. The current MOU ensures that radioactive substances that are stored, received and/or processed for the explicit purpose of disposal meet TCEQ licensing requirements.
- The TCEQ in cooperation with TDH may elect to amend the MOU. However, separating the regulatory review of disposal from storage, receipt and/or processing at a TCEQ licensed disposal facility would necessitate two radioactive material licenses: one from TDH and one from TCEQ. The existing MOU provides that certain “pre-disposal” activities relating to materials at commercial disposal facilities are under TCEQ, rather than TDH, jurisdiction in order to ensure that those materials are suitable for disposal. Current TDH storage and processing requirements do not address the commercial nature of waste disposal activity, such as waste characterization and analysis, quality assurance/quality control, waste acceptance criteria, and waste compatibility issues.

Staff is available to discuss options.

Applicable Law:

Texas Government Code, §2001.021, which establishes the procedures by which an interested person may petition a state agency for the adoption of a rule and 30 TAC, §20.15, which provides such procedures specific to the commission.

Texas Health and Safety Code, §401.011, §401.412, and §401.413, provide commission authority to adopt rules and guidelines relating to licenses for the disposal of radioactive substances.

Texas Health and Safety Code, §401.051, provides commission authority to adopt rules and guidelines relating to the control of sources of radiation.

Texas Health and Safety Code, §401.069, provides that the commission or the TDH must adopt as a rule any memorandum of understanding between the department and the commission.

Texas Water Code, §§27.011 and 27.019, provide the Commission authority to adopt rules and issue permits for injection wells.

Affected Public:

Newpark’s proposed rulemaking would affect persons interested in obtaining a license authorizing the commercial disposal of NORM waste in a Class I injection well and generators of NORM waste

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throughout the United States, including the federal government, interested in sending waste to a commercial disposal facility.

Newpark's proposed rulemaking would also affect residents near a commercial NORM disposal facility who would likely have concerns about the effects of the facility on health, safety, and the environment, including radiological effects and long-term plans for decommissioning of the site.

Affected Agency Programs:

If rules were adopted authorizing the licensing of commercial NORM disposal, the Waste Permits Division, Environmental Law Division, and the Financial Administration Division would be impacted.

- The Radioactive Material Licensing Team within the Waste Permits Division would be primarily responsible for rule development and implementation. The Radioactive Material Licensing Team would be responsible for developing a commercial NORM disposal license application form, administrative and technical review of license applications, draft licensing, and participating in hearings for any contested applications.
- The Underground Injection Control Team within the Waste Permits Division would be responsible for processing an application for any injection activities involving injection of NORM. Other teams within the Industrial and Hazardous Waste Permits Section would be responsible for disposal in landfills.
- The Environmental Law Division would provide legal support in rulemaking, license application processing, draft licensing, and discussions with state advisory boards. Legal staff would represent the Executive Director in any contested case hearings on contested applications.
- The Financial Administration Division would be responsible for securing and maintaining financial assurance from the licensee.

Agency Contacts:

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Attachment: Petition Dated August 5, 2003

cc: (with attachments)

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