

The Agency is seeking your input regarding the following noted suggested rule changes. These suggested changes are NOT final rule changes.

Legend: (New Draft Rule with changes made to Draft 1)

Single-Underline = Suggested New Draft language

[Bold Print and Brackets] = Current language drafted for deletion

Regular Print = New Draft language

§289.259 Exemptions, General Licenses, and Licensing of Naturally Occurring Radioactive Material (NORM) and Technologically Enhanced Naturally Occurring Radioactive Material (TENORM).

(a) Purpose. This section establishes radiation protection standards for Naturally Occurring Radioactive Material (NORM) and Technologically Enhanced Naturally Occurring Radioactive Material (TENORM). These standards include the receipt, possession, use, processing, manufacture, distribution, transfer, extraction, mining, beneficiating, transporting, storage, and recycling of NORM and/or TENORM-contaminated materials not subject to regulation under the Atomic Energy Act of 1954, as amended (AEA), and of products with NORM and/or TENORM.

(b) Scope.

(1) This section applies to any person who receives, possesses, uses, processes, manufactures, distributes, transfers, extracts, mines, beneficiates, transports, stores or recycles NORM and/or TENORM-contaminated materials not subject to regulation under the AEA.

(2) This section applies to the introduction of NORM and/or TENORM into products in which neither the NORM and/or TENORM nor the radiation emitted from the NORM and/or TENORM is considered to be beneficial to the products.

(3) In addition to the requirements of this section:

(A) the manufacture and commercial distribution of products containing TENORM, in which the TENORM or its associated radiation(s) are considered to be a beneficial attribute, are licensed in accordance with the provisions of §289.252 of this title (relating to Licensing of Radioactive Material); and

(B) storage incident to transportation and transportation of NORM and/or TENORM are regulated in accordance with §289.202 of this title (relating to Standards for Protection Against Radiation from Radioactive Materials) and §289.257 of this title (relating to Packaging and Transportation of Radioactive Material) respectively.

(4) The requirements of this section are in addition to and not in substitution for other definitions and applicable requirements of §289.201 of this title (relating to General Provisions of Radioactive Material), §289.202 of this title, §289.203 of this title (relating to Notices, Instructions, and Reports to Workers; Inspections), §289.204 of this title (relating to Fees for Certificates of Registration, Radioactive Material License, Emergency Planning and Implementation, and Other Regulatory Services), §289.205 of this title (relating to Hearing and Enforcement Procedures), §289.251 of this title (relating to Exemptions, General Licenses, and General License Acknowledgements), §289.252 of this title, and §289.257 of this title.

(5) This section does not apply to source material and byproduct material as both are defined in §289.201 of this title

(6) This section does not apply to those activities regulated under the authority of the Railroad Commission of Texas.

(7) This section does not apply to those activities regulated under the authority of the Texas Commission on Environmental Quality.

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

(1) Beneficial attribute or beneficial to the product--The radioactivity of the NORM and/or TENORM is necessary to the use of the product.

(2) Beneficiating--The processing of materials for the purpose of altering chemical or physical properties to improve the quality, purity, or assay grade.

(3) Consumer--A member of the public exposed to NORM and/or TENORM from final end-use products available on a retail basis.

(4) Consumer or retail product--Any product, article, or component part thereof, produced, distributed or sold for use by a consumer in or around a permanent or temporary household or residence, or for the personal use, consumption, or enjoyment of a consumer, or for use in or around a school or playground.

(5) Decontamination--The process of removing or reducing NORM and/or TENORM from equipment, buildings, structures, and/or land **[to a level in accordance with §289.202(ggg)(6) of this title and/or this section]**.

(6) Naturally occurring radioactive material (NORM)--Solid, liquid, or gaseous material or combination of materials, excluding source material, special nuclear material, and byproduct material, in its natural physical state that spontaneously emits radiation.

(7) Product--Something produced, made, manufactured, refined, or beneficiated.

(8) Recycling--A process by which materials that have served their intended use are collected, separated, or processed and returned to use in the form of raw materials in the production of new products such that the resulting materials are contaminated at levels or below those specified in subsection (d)(4) of this section. Recycling shall not include the use of a material in a manner that constitutes decontamination or disposal. Recycling shall not include the transfer of materials for use as a consumer or retail product.

(9) Technologically enhanced naturally occurring radioactive material (TENORM)--Naturally occurring radioactive material whose radionuclide concentrations are increased by or as a result of past or present human practices. TENORM does not include background radiation or the natural radioactivity of rocks or soils. TENORM does not include "source material" and "byproduct material" as both are defined in §289.201 of this title.

(10) Transfer--The physical relocation of NORM and/or TENORM between sites [within a business' operation] or between general or specific licensees. This term does not include commercial distribution or a change in legal title to NORM and/or TENORM that does not involve physical movement of those materials.

(11) Volumetrically-contaminated material--Material other than liquids that is contaminated by radioactive material homogeneously-distributed throughout the material as measured in cubic units (for example: sludge, slag, loose scale, and other similar materials).

(d) Exemptions.

(1) The possession, use, and/or transfer of NORM are [is] exempt from the requirements of this section without regard to quantity. The processing, manufacture, distribution, and/or transport of material containing NORM are addressed in subsection (f) of this section.

(2) TENORM, TENORM waste, and/or TENORM contaminated material are [is] exempt from the requirements of this section provided that the following concentrations are not exceeded at any time:

(A) 5 picocuries per gram (pCi/g) or less of radium-226, above background;

(B) 5 pCi/g or less of radium-228, above background; and

(C) 150 pCi/g picocuries per gram or less of any other TENORM radionuclide.

(3) Except as provided in subsection (f) of this section, land is exempt from the requirements of this section if it contains material at concentrations less than the following limits:

(A) 5 pCi/g or less of radium-226, above background, averaged over the first 15 centimeters (cm), and 15 pCi/g above background averaged over each subsequent 15-centimeter-thick layer of soil; and

(B) 5 pCi/g or less of radium-228, above background, averaged over the first 15 cm, and 15 pCi/g above background averaged over each subsequent 15-centimeter-thick layer of soil; or

(C) provided the total effective dose equivalent (TEDE) (from the contaminated land) to individual members of the public (continually present) does not exceed 0.1 rem (1 millisievert (mSv)) in a year, the following material concentrations shall not be exceeded when averaged over 15-centimeter-depth increments:

(i) 30 pCi/g or less of radium-226; and

(ii) 30 pCi/g or less of radium-228.

(4) The receipt, possession, and/or storage of pipe (tubulars) or other downhole or surface equipment used in oil production contaminated with TENORM scale or residue, not specified in subsection (f)(1) of this subsection, are **[is]** exempt from the requirements of this section if the maximum radiation exposure level of each item does not exceed:

(A) 50 microrentgen per hour ($\mu\text{R/hr}$) **[including the background radiation level]** at any accessible point. Radiation survey instruments used to make this determination shall be able to measure from 1 $\mu\text{R/hr}$ through at least 500 $\mu\text{R/hr}$; and

(B) the levels set forth in §289.202(ggg)(6) of this title on any accessible surfaces.

(5) The receipt, possession, and/or storage of pipe (tubulars) or equipment used to transport natural gas or natural gas liquids contaminated with TENORM are **[is]** exempt from the requirements of this section if the maximum radiation contamination level does not exceed the levels set forth in §289.202(ggg)(6) of this title.

(6) The possession, use, and/or storage of the following products/materials are **[is]** exempt from the requirements of this section:

(A) potassium and potassium compounds that have not been isotopically enriched in the radionuclide K-40;

(B) byproducts from fossil fuel combustion (bottom ash, fly ash, and flue-gas emission control byproducts);

(C) material used for building construction, industrial processing, sand blasting, metal castings, or other products/material in which the radionuclide content has not been concentrated to higher levels than found in its natural state;

(D) phosphate and potash fertilizer;

(E) phosphogypsum for agricultural uses if such commercial distribution and uses meet the requirements of Title 40, Code of Federal Regulations (CFR), §61.204 and §61.206;

(F) natural gas and natural gas products;

(G) crude oil and crude oil products; and

(H) zirconia, zircon, and products of zirconia and zircon.

[~~(7)~~ The possession of TENORM waste regulated by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA 42 USC §9601 *et seq.* as amended) or by the Resource Conservation and Recovery Act (RCRA 42 USC §6901 *et seq.* as amended) is exempt from this section.]

~~(7)~~ [(8)] Produced waters from crude oil and/or natural gas production are [is] exempt from the requirements of this section.

~~(8)~~ [(9)] Possession, storage, and/or use of filters, ion exchange resins or any other volumetrically-contaminated material containing TENORM from water, other than wastewater, are [is] exempt from the requirements of this section if the material contains concentrations less than:

(A) 5 pCi/g of radium-226; and

(B) 5 pCi/g of radium-228.

~~(9)~~ [(10)] Filters, ion exchange resins and/or any other volumetrically-contaminated material generated from an individual household water treatment system are exempt from the requirements of this section.

~~(10)~~ [(11)] All other equipment not previously specified in this section is exempt from the requirements of this section if the equipment is not contaminated with NORM and/or TENORM at levels greater than those in §289.202(ggg)(6) of this title.

(e) Prohibitions.

(1) Dilution to render TENORM exempt shall not be performed [**without prior agency approval**].

(2) TENORM and/or products containing TENORM shall not be added to any food, beverage, cosmetic, drug, or other commodity designed for ingestion or inhalation by, or application to, a human being.

(f) General licenses.

(1) Unless otherwise exempted under the provisions of subsection (d) of this section or licensed under the provisions of §289.252 of this title, the following general licenses are issued provided that no worker or member of the public shall receive a radiation dose in excess of 0.1 rem (1 mSv) TEDE annually.

(A) A general license is issued to possess, use, transport, and/or store TENORM without regard to quantity.

(B) A general license is issued for the receipt and/or[,] transfer[, **and/or transportation**] of NORM and/or TENORM, other than waste, from one general licensee to another general licensee if the:

(i) equipment, buildings, and structures contaminated with TENORM are to be used by the recipient for the same purpose;

(ii) materials are ores or raw materials for processing or refinement; or

(iii) materials are in the recycling process.

(C) A general license is issued to process, manufacture, distribute, extract, mine, and/or beneficiate NORM and/or TENORM, without regard to quantity for:

(i) potassium and potassium compounds that have not been isotopically enriched in the radionuclide K-40;

(ii) byproducts from fossil fuel combustion (bottom ash, fly ash, and flue-gas emission control byproducts);

(iii) material used for building construction, industrial processing, sand blasting, metal castings, or other products/material in which the radionuclide content has not been concentrated to higher levels than found in its natural state;

(iv) phosphate and potash fertilizer;

(v) phosphogypsum for agricultural uses if such commercial distribution and uses meet the requirements of Title 40, CFR, §61.204 and §61.206;

(vi) natural gas and natural gas products;

(vii) crude oil and crude oil products; and

(viii) zirconia, zircon, and products of zirconia and zircon.

(D) A general license is issued for the processing of TENORM-contaminated materials for the purpose of recycling.

(E) A general license is issued for employees or contractors to perform work, other than as specified in subsection (g) of this section, [maintenance] on equipment, buildings, structures, and/or land contaminated with or containing NORM and/or TENORM.

(F) A general license is issued for the processing, manufacture, **[and/or]** distribution, and/or transport of material containing NORM.

(2) The agency may, by written notice, require any person authorized by a general license to apply for and obtain a specific license if the agency determines that specific licensure is necessary.

(g) Specific licenses. A specific license is required:

(1) for operations or activities that may result in a radiation dose to any worker or member of the public from NORM and/or TENORM in excess of 0.1 rem (1 mSv) TEDE annually;

(2) to manufacture and/or distribute any consumer or retail product containing TENORM unless authorized in accordance with subsection (f)(1)(C) of this section;

(3) to decontaminate equipment, buildings, structures, and/or land contaminated with TENORM;

(4) to receive and/or[,] transfer[, **and/or transport**] TENORM not otherwise authorized in subsection (f)(1)(B) of this section; or

(5) to possess, use, and/or store TENORM on or in water treatment filters, ion exchange resins or any other volumetrically-contaminated material from water, other than wastewater, unless exempted in accordance with subsection (d) of this section.