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3701:1-TN-01      **Definitions.**

Terms defined in rule 3701:1-38-01 of the Administrative Code shall have the same meaning when used in this chapter except terms redefined within a given rule for use within that rule only, and additionally, as used in this chapter of the Administrative Code:

- (A) "Beneficial to the product" means that the radioactivity of the technologically enhanced naturally occurring radioactive material (TENORM) is necessary to the use of the product.
- (B) "Conditional release" means release by a licensee for a specified use other than release for unrestricted use.
- (C) "Consumer" means a member of the public exposed to TENORM from final end-use products available on a retail basis.
- (D) "Consumer or retail product" means 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.
- (F) "Product" means something produced, made, manufactured, refined, or benefited.
- (G) "Reasonably maximally exposed individual" means a representative of a population who is exposed to TENORM at the maximum TENORM concentration measured in environmental media found at a site along with reasonable maximum case exposure assumptions. The exposure is determined by using maximum values for one or more of the most sensitive parameters affecting exposure, based on cautious but reasonable assumptions, while leaving the others at their mean value.
- (I) "Technologically enhanced naturally occurring radioactive material or TENORM" means 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 the Atomic Energy Act of 1954, as amended (AEA 42 USC §2011 *et*

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*seq.*) and relevant regulations implemented by the United States nuclear regulatory commission.

- (J) "Transfer" means the physical relocation of TENORM within a business' operation or between general or specific licensees. This term does not include commercial distribution or a change in legal title to TENORM that does not involve physical movement of those materials.

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3701:1-TN-02 Purpose and scope.

This chapter establishes radiation protection standards for TENORM. These standards include the possession, use, processing, manufacture, distribution, transfer, and disposal of TENORM and of products with TENORM. This chapter also provides for the licensing of TENORM, including license termination. The provisions of this chapter are in addition to, and not a substitution for, other requirements of Chapter 3748. of the Revised Code and the rules promulgated thereunder. This chapter does not apply to byproduct material, source material, and special nuclear material as defined in rule 3701:1-38-01 of the Administrative Code.

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3701:1-TN-03      Activities requiring license.

- (A) A specific license is required pursuant to paragraph (C) of rule 3701:1-TN-10 and rule 3701:1-TN-11 of the Administrative Code to manufacture and distribute any consumer or retail product containing TENORM unless the manufacture and distribution are:
- (1) Authorized as specified by paragraph (A) of rule 3701:1-TN-08 or paragraph (F) of rule 3701:1-TN-08 of the Administrative Code;
  - (2) Licensed under the provisions of this chapter or other chapters of the Administrative Code adopted pursuant to Chapter 3748. of the Revised Code;
  - (3) Exempted under the provisions of rule 3701:1-TN-07 of the Administrative Code; or
  - (4) Otherwise exempt in accordance with another chapter of the Administrative Code;
- (B) A specific license is required to decontaminate equipment or land not exempted under the provisions of rule 3701:1-TN-07 of the Administrative Code or to decontaminate facilities contaminated with TENORM in excess of the levels in rule 3701:1-TN-15 of the Administrative Code. For purposes of this rule, the term "decontaminate" shall not include routine maintenance which results in the incidental removal of contamination; and
- (C) A specific license is required to receive TENORM from other persons for storage, treatment or disposal unless otherwise provided in this chapter or authorized in writing by the director.

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3701:1-TN-04      **Communications.**

Except as otherwise provided, any communication or report required by Chapter 3701:1-TN of the Administrative Code shall be filed in accordance with Chapter 3748. of the Revised Code and rules promulgated thereunder. Documents pertaining to license application or any license matter, unless otherwise directed in writing, shall be submitted to the director at the following address:

"Ohio Department of Health  
Bureau of Radiation Protection  
246 North High Street  
Columbus, OH 43215"

Documents pertaining to license application may be hand-delivered to the following address:

"Ohio Department of Health  
35 East Chestnut Street  
Columbus, Ohio 43215."

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3701:1-TN-05      Completeness and accuracy of information.

- (A) Information provided to the director by an applicant for a license or by a licensee or information required by statute or by the department's rules, orders, or license conditions to be maintained by the applicant or the licensee shall be complete and accurate in all material respects.
- (B) Each applicant or licensee shall notify the department of information identified by the applicant or licensee as having for the regulated activity a significant implication for public health and safety or common defense and security. An applicant or licensee violates this paragraph only if the applicant or licensee fails to notify the department of information that the applicant or licensee has identified as having a significant implication for public health and safety or common defense and security. Notification shall be provided to the department within two working days of identifying the information. This requirement is not applicable to information which is already required to be provided to the department by other reporting or updating requirements.

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3701:1-TN-06 Carriers.

Common and contract carriers, freight forwarders, warehousemen, and the United States postal service are exempt from the regulations in this chapter to the extent that they are not required to be licensed as set forth in Chapter 3748. of the Revised Code and rule 3701:1-38-02 of the Administrative Code, and to the extent that they only transport or store TENORM in the regular course of carriage for another or storage incident thereto.



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3701:1-TN-07 Exemptions.

- (A) Persons who receive, possess, use, process, transfer, distribute, or dispose of TENORM are exempt from the requirements of chapter with respect to any combination of radium-226 and radium-228 if the materials contain, or are contaminated at, concentrations less than one hundred eighty-five becquerel per kilogram (five picocuries per gram) excluding natural background. The progeny of the exempt TENORM radium-226 and radium-228 are also exempt. Manufacture of consumer or retail products at concentrations greater than one hundred eighty-five becquerel per kilogram (five picocuries per gram) is regulated pursuant to paragraph (C) of rule 3701:1-TN-10 and rule 3701:1-TN-11 of the Administrative Code.
- (B) Persons who receive products or materials containing TENORM distributed in accordance with a specific license issued by the department pursuant to paragraph (A) of rule 3701:1-TN-03 of the Administrative Code, or to an equivalent license issued by another licensing state, are exempt from this chapter with regard to those products or materials.
- (C) Persons who receive, possess, use, process, transfer and distribute, including preparation of custom blends for distribution, phosphate or potash ore-based fertilizers containing TENORM are exempt from this chapter.
- (D) Persons who receive, possess, use, process, transfer, dispose into a permitted landfill, and distribute, including preparation of custom blends for distribution, zirconia, zircon, and products of zirconia and zircon containing TENORM are exempt from this chapter. A facility that manufactures zirconia or zircon from ore is not exempt from this chapter. A facility that chemically processes zirconia or zircon resulting in increased environmental mobility of TENORM is not exempt from this chapter.
- (E) Persons who possess 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) are exempt from this chapter for the TENORM waste regulated by either of these federal acts.

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- (F) Other persons who possess or use TENORM shall be exempt when the department makes a determination, upon its own initiative or upon request for such determination, that the reasonably maximally exposed individual will not receive a public dose with a total effective dose equivalent (TEDE) of more than one millisievert (one hundred millirem) in one year from all licensed or registered sources of radiation including TENORM.
- (G) Persons who receive water treatment plant or sewage treatment plant liquid or sludge, apply such material to farmland by spreading, or cultivate such material into farmland as a soil amendment in accordance with a permit from the Ohio environmental protection agency are hereby exempt from this chapter if the concentration of radium-226 and radium-228 combined in the liquid or sludge before application to farmland is less than three hundred seventy becquerel per kilogram (ten picocuries per gram).
- (H) The following activities are exempt from this chapter, unless the director determines that the dose received by an average member of the critical group would exceed the dose limit specified in rule 3701:1-38-22(B) of the Administrative Code.
- (1) The handling, distribution, or processing of:
- Soil containing technologically enhanced radium-226 or radium-228 with a radon emanation rate less than 0.74 becquerels per square meter per second (twenty picocuries per square meter per second), provided that the concentration of technologically enhanced radium-226 or radium-228 in the soil, averaged over any one hundred square meters, and averaged over the first fifteen centimeters of soil below the surface, does not exceed one becquerel per gram (twenty-seven picocuries per gram);
  - Soil containing technologically enhanced radium-226 or radium-228 with a radon emanation rate equal to or greater than 0.74 becquerels per square meter per second (twenty picocuries per square meter per second) provided that the concentration of technologically enhanced radium-226 or radium-228 in the soil, averaged over any one hundred square meters, and averaged over the first fifteen centimeters of soil below the surface does not exceed 0.185 becquerel per gram (five picocuries per gram);

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- (c) Media, other than soil, containing technologically enhanced radium-226 or radium-228 with a radon emanation rate less than 0.74 becquerels per square meter per second (twenty picocuries per square meter per second) provided that the concentration of technologically enhanced radium-226 or radium-228 does not exceed one becquerel per gram (twenty-seven picocuries per gram);
  - (d) Media, other than soil, containing technologically enhanced radium-226 or radium-228 with a radon emanation rate is equal to or greater than 0.74 becquerels per square meter per second (twenty picocuries per square meter per second) provided that the concentration of technologically enhanced radium-226 or radium-228 does not exceed 0.185 becquerel per gram (five picocuries per gram);
  - (e) Soil containing NARM other than technologically enhanced radium-226 or radium-228 provided that the concentration of NARM averaged over any one hundred square meters, and averaged over the first fifteen centimeters of soil below the surface is five becquerels per gram (one hundred thirty-five picocuries per gram) or less;
  - (f) Media, other than soil, containing NARM other than technologically enhanced radium-226 or radium-228 provided that the concentration of NARM is five becquerels per gram (one hundred thirty-five picocuries per gram) or less; or
  - (g) Materials in the recycling process contaminated with scale or residue not otherwise exempted or other equipment containing NARM with a radiation exposure level that does not exceed 0.25 micrograys (twenty-five microrads) per hour above background at any accessible point.
- (2) The manufacture, wholesale or retail commercial distribution, use, or disposal of the following products or materials, or the recycling of equipment used to produce, contain, or transport the following:
- (a) Potassium or potassium compounds that have not been isotopically enriched in the radionuclide potassium-40;

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- (b) Fossil fuel or byproducts from fossil fuel combustion, including bottom ash, fly ash, and flue-gas emission control byproducts; or
  - (c) Material used for building construction, industrial processing, sandblasting, metal casings, or other NARM in which the radionuclide content has not been concentrated to a level higher than is found in its natural state, or zirconium-bearing sands and products produced from those sands provided that the radioactive constituent is consistent with the radioactive levels stated in the material safety data sheet accompanying the zirconium-bearing materials,
- (3) The wholesale and retail commercial distribution, including custom blending, possession, and use of the following products or materials or the recycling of equipment or containers used to produce, contain, or transport these products as follows:
- (a) Phosphate or potash fertilizer;
  - (b) Phosphogypsum for agricultural uses if such commercial distribution and uses meet the requirements of 40 C.F.R. 61.204, 40 C.F.R. 61.207, and 40 C.F.R. 61.208 as specified in appendix D to this rule; or
  - (c) Materials used for building construction if the materials contain NARM that has not been concentrated to higher levels than found in its natural state.

The exemptions contained in this paragraph do not apply to the manufacture of phosphate or potash fertilizer.

- (4) The possession, storage, use, transportation, or commercial distribution of natural gas and natural gas products or of crude oil and crude oil products containing NARM. The exemptions contained in this paragraph do not apply to the processing of natural gas or crude oil or the manufacture of natural gas products or crude oil products containing NARM.
- (5) Possession of produced waters from crude oil or natural gas production provided that the produced waters are reinjected in a well approved by the United States

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environmental protection agency or discharged under the authority of the United States environmental protection agency.

- (6) The possession, storage, use, transportation or commercial distribution of compressed gases and compressed gas products containing NARM. The exemptions contained in this paragraph do not apply to the processing of compressed gas or compressed gas products containing NARM.

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3701:1-TN-08      **General licenses.**

- (A) Subject to the requirements of Chapter 3701:1-38 of the Administrative code and rules 3701:1-TN-08 and 3701:1-TN-18 of the Administrative Code, unless and until a specific license has been issued in accordance with rule 3701:1-TN-03 of the Administrative Code, a general license is hereby issued to possess, use, transfer, distribute or dispose of TENORM without regard to quantity.
- (B) This general license does not authorize the manufacture of consumer or retail products containing TENORM in concentrations greater than those specified in paragraph (A) of rule 3701:1-TN-07 of the Administrative Code or the receipt and disposal of wastes from other persons.
- (C) Employees or contractors under control and supervision of a general licensee may perform routine maintenance on equipment, facilities, and land owned or controlled by the general licensee. Maintenance that provides a pathway for exposure different from that found in periodic maintenance operations and that increases the potential for additional exposure is not considered routine maintenance. The decontamination of equipment, facilities, and land shall be performed only by persons specifically licensed by the department, an agreement state, or another licensing state to conduct such work.
- (D) Any person subject to the general license issued by paragraph (A) of rule 3701:1-TN-08 of the Administrative Code shall notify the department within sixty days of the effective date of this chapter or of becoming subject to the general license. Such notification shall include:
- (1) Name and address of the licensee;
  - (2) Location and description of the facility, facilities, or portion of a facility where the TENORM is situated;
  - (3) Description of the TENORM including estimates of the amount and extent of TENORM.
- (E) Transfer of material, equipment or real property.

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(1) The transfer of TENORM not exempt from these regulations from one general licensee to another general licensee is authorized if:

(a) The equipment and facilities contaminated with TENORM are to be used by the recipient for a similar purpose, provided that no member of the public shall receive a dose in excess of that allowed under rule 3701:1-38-13 of the Administrative Code; or

(b) The transfer of control or ownership of land contaminated with TENORM includes [an annotation of the deed records]\*/[notice to owners of surface and mineral rights]\*\*/ to indicate the presence of TENORM.

*\*/ The notice to local government is to ensure notification of the appropriate government agency that regulates land use. The intent is to ensure that no use of the land or construction occurs that would cause exposure to the TENORM above the limit for a member of the public without the knowledge of the individuals being exposed.*

*\*\*/ This option is provided for those states in which notations to recorded deeds are prohibited*

(2) For transfers not made in accordance with paragraph (E)(1) of rule 3701:1-TN-08 of the Administrative Code, prior written approval by the department is required. To obtain department approval, the transferor shall submit information that demonstrates compliance with rule 3701:1-TN-15 of the Administrative Code. Records of such compliance shall be maintained as specified in rule 3701:1-TN-17 of the Administrative Code.

(3) For transfers made under paragraph (E)(1) of rule 3701:1-TN-08 of the Administrative Code, the general licensee who makes the transfer shall assess the amount and extent of TENORM contamination or material present, inform the general licensee receiving the TENORM of these assessments prior to such transfer, and maintain records required by these regulations that include:

(a) The date, recipient name and location;

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- (b) A description and quantity of the material; and
- (c) A description of the procedures and mechanisms used to ensure that material will not be released in another manner, such as an unrestricted release.
- (4) A general licensee intending to transfer material or real property for unrestricted use shall document compliance with the requirements of rule 3701:1-TN-15 of the Administrative Code. Records of such compliance shall be maintained.
- (F) The distribution of TENORM products not exempt from these regulations from one general licensee to another general licensee is authorized provided the product is accompanied by labels or manifests which identify the type and amount of TENORM. This may be accomplished by providing notification to the recipient through literature such as Material Safety Data Sheets, manifests, or labeling accompanying the product.
- (G) The department may, by written notice, require any person authorized by a general license to apply for and obtain a specific license if the department determines that specific licensure is necessary to ensure that exposures do not exceed the criteria of rules 3701:1-38-12 and 3701:1-38-13 of the Administrative Code. The notice shall state the reason or reasons for requiring a specific license.



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3701:1-TN-09      Application for specific licenses.

- (A) An applicant for a license to receive and possess TENORM shall apply in accordance with rule 3701:1-38-02 of the Administrative Code and this chapter on a form prescribed by the director. The original application shall be filed with the director. Information contained in previous applications, statements or reports filed with the director may be incorporated by reference, provided that the reference is clear, specific, and has been on file with the department for not more than two licensing periods, and provided that the item being referenced in the document is being referenced without change.
- (B) The director may at any time after the filing of the original application require additional information from the applicant in order to determine whether a license should be issued or whether a current license should be modified or revoked.
- (C) Each application shall be signed by the applicant or a person duly authorized to act for the applicant and shall be accompanied by the fee prescribed in rule 3701:1-38-02 of the Administrative Code.
- (D) An application for a license filed pursuant to the requirements in Chapter 3701:1-TN of the Administrative Code will be considered also as an application for licenses authorizing other activities for which licenses are required by Chapter 3748. of the Revised Code and the rules promulgated thereunder, provided that the application specifies the additional activities for which licenses are requested and complies with requirements of the director as to applications for such licenses.
- (E) Each application for a specific license shall be accompanied by the fee prescribed in rule 3701:1-38-02 of the Administrative Code.
- (F) In an application, the applicant may incorporate by reference information contained in previous applications, statements, or reports filed with the department provided such references are clear and specific.
- (G) Information provided by a licensee or applicant for a license or license renewal that constitutes a "trade secret" as defined in section 1333.61 of the Revised Code is not

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subject to public disclosure in accordance with sections 1333.61 to 1333.69 of the Revised Code.

- (H) As provided by rule 3701:1-TN-12 of the Administrative Code, certain applications for specific licenses filed under Chapter 3701:1-TN of the Administrative Code must contain a proposed decommissioning funding plan or a certification of financial assurance for decommissioning.
- (I) An application for a license to receive and possess TENORM for the conduct of any activity which the director has determined pursuant to rule 3701:1-40-36 of the Administrative Code could potentially affect the quality of the environment shall be filed at least nine months prior to commencement of construction of the plant or facility in which the activity will be conducted and shall be accompanied by any environmental report required pursuant to rule 3701:1-40-36 of the Administrative Code.

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3701:1-TN-10      General requirements for the issuance of specific licenses.

- (A) An application for a specific license will be approved if:
- (1) The application is for a purpose authorized by Chapter 3748. of the Revised Code and the rule adopted thereunder;
  - (2) The applicant's proposed equipment and facilities are adequate to protect health and minimize danger to life or property or the environment;
  - (3) The applicant is qualified by training and experience to use the TENORM in question for the purpose requested in such manner as to protect health and minimize danger to life or property or the environment;
  - (4) The applicant satisfied all applicable special requirements in this chapter;
  - (5) The applicant has met the financial assurance requirements of rule 3701:1-TN-13 of the Administrative Code;
  - (6) The applicant has adequately addressed the following items in the application:
    - (a) Procedures and equipment for monitoring and protecting workers;
    - (b) An evaluation of the radiation levels and concentrations of contamination expected during normal operations;
    - (c) Operating and emergency procedures, including procedures for waste reduction and quality assurance of items released for unrestricted use; and
    - (d) A method for managing the radioactive material removed from contaminated equipment, facilities, and land.
  - (7) For each location to be listed on the license as an authorized use location, the applicant shall submit either:

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- (a) A statement that the applicant owns the facility where radioactive material is to be used or stored; or
  - (b) A statement verifying that the facility owner has been informed, in writing, of the use or storage of radioactive material at the facility, and that the use of such material is subject to the rules of the department.
- (B) An application for a specific license to decontaminate equipment, land, or facilities contaminated with TENORM in excess of the levels set forth in rule 3701:1-TN-15 of the Administrative Code, as applicable, and to dispose of the resulting waste will be approved if the applicant satisfies the general requirements specified in paragraph (A) of rule 3701:1-TN-10 of the Administrative Code.
- (C) An application for a specific license to transfer or manufacture or distribute consumer or retail products containing TENORM to persons exempted from these rules pursuant to paragraph (B) of rule 3701:1-TN-07 of the Administrative Code will be approved if:
- (1) The applicant satisfies the general requirements specified in paragraph (A) of rule 3701:1-TN-10 of the Administrative Code.
  - (2) The TENORM is not contained in any food, beverage, cosmetic, drug, or other commodity designed for ingestion or inhalation by, or application to, a human being; and
  - (3) The applicant submits sufficient information relating to the design, manufacture, prototype testing, quality control procedures, labeling or marking, and conditions of handling, storage, use, and disposal of the TENORM product to demonstrate that the product will meet the safety criteria set forth in rule 3701:1-TN-11 of the Administrative Code. The information shall include:
    - (a) A description of the product and its intended use or uses;
    - (b) The type, quantity, and concentration of TENORM in each product;

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- (c) The chemical and physical form of the TENORM in the product and changes in chemical and physical form that may occur during the useful life of the product;
- (d) An analysis of the solubility in water and body fluids of the radionuclides in the product;
- (e) The details of manufacture and design of the product relating to containment and shielding of the TENORM and other safety features under normal and severe conditions of handling, storage, use, reuse, and disposal of the product;
- (f) The degree of access of human beings to the TENORM product during normal handling, use, and disposal;
- (g) The total quantity of TENORM expected to be distributed annually in the product;
- (h) The expected useful life of the product;
- (i) The proposed method of labeling or marking each unit of the product with identification of the manufacturer or initial transferor of the product and the radionuclides and quantity of TENORM in the product;
- (j) The procedures for prototype testing of the product to demonstrate the effectiveness of the containment, shielding, and other safety features under both normal and severe conditions of handling, storage, use, reuse, and disposal;
- (k) The results of the prototype testing of the product, including any change in the form of the TENORM contained in it, the extent to which the TENORM may be released to the environment, any change in radiation levels, and any other changes in safety features;
- (l) The estimated external radiation doses and committed dose equivalent relevant to the safety criteria in rule 3701:1-TN-11 of the Administrative Code and the basis for such estimates;

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- (m) A determination that the probabilities with respect to doses referred to in rule 3701:1-TN-11 of the Administrative Code meet the safety criteria;
  - (n) The quality control procedures to be followed in the processing of production lots of the product, and the quality control standards the product will be required to meet; and
  - (o) Any additional information, including experimental studies and tests, required by the department to facilitate a determination of the radiation safety of the product.
- (D) Notwithstanding the provisions of paragraph (B) of rule 3701:1-TN-11 of the Administrative Code, the director may deny an application for a specific license if the end uses of the product are frivolous or cannot be reasonably foreseen.
- (E) Upon a determination that an application meets the requirements of Chapter 3748. of the Revised Code and the rules adopted thereunder, the director will issue a specific license authorizing the possession and use of TENORM.

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3701:1-TN-11      Safety criteria for consumer and retail products.

An applicant for a license pursuant to paragraph (C) of rule 3701:1-TN-10 of the Administrative Code shall demonstrate that the product is designed and will be manufactured so that:

- (A) In normal use and disposal of a single exempt item, and in normal handling and storage of the quantities of exempt items likely to accumulate in one location during marketing, distribution, installation, and servicing of the product, it is unlikely that the dose in any one year, to a suitable sample of the group of individuals expected to be most highly exposed to radiation or radioactive material from the product will exceed the doses in column I of the table in the appendix to this rule.
- (B) In use and disposal of a single exempt item and in handling and storage of the quantities of exempt items likely to accumulate in one location during marketing, distribution, installation, and servicing of the product, the probability is low (not more than one such failure per year for each ten thousand exempt units distributed) that the containment, shielding, or other safety features of the product would fail under such circumstances that a person would receive an external radiation dose or committed dose equivalent in excess of the dose to the appropriate part of the body as specified in column II of the table in the appendix to this rule and the probability is negligible (not more than one such failure per year for each one million exempt units distributed) that a person would receive an external radiation dose or committed dose equivalent in excess of the dose to the appropriate part of the body as specified in column III of the table in the appendix to this rule.
- (C) It is unlikely that there will be a significant reduction in the effectiveness of the containment, shielding, or other safety features of the product from wear and abuse likely to occur in normal handling and use of the product during its useful life.

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Appendix Table of doses.

Part of Body	Column I <sup>1</sup> Dose	Column II <sup>1</sup> Dose	Column III <sup>1</sup> Dose
Whole body; head and trunk; active blood-forming organs; gonads; or lens of eye	0.05 mSv (0.005 rem)	5 mSv (0.5 rem)	150 mSv (15 rem)
Hands and forearms; feet and ankles; localized areas of skin averaged over areas no larger than one square centimeter	0.75 mSv (0.075 rem)	75 mSv (7.5 rem)	2000 mSv (200 rem)
Other organs	0.15mSv (0.015 rem)	15mSv (1.5 rem)	500mSv (50 rem)

<sup>1</sup> Dose Limit is the dose above background from the product.



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3701:1-TN-12      **Terms and conditions of licenses.**

(A) General Terms and Conditions

- (1) Each license issued pursuant to the rules in Chapter 3701:1-TN of the Administrative Code shall be subject to all the provisions of Chapter 3748. of the Revised Code and the rules adopted thereunder, now or hereafter in effect, and to all rules, requirements, and orders of the department.
- (2) No license issued or granted pursuant to the rules in Chapter 3701:1-TN of the Administrative Code shall be transferred, assigned or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of any license to any person, unless the department shall after securing full information, find that the transfer is in accordance with the provisions of Chapter 3748. of the Revised Code and rules promulgated thereunder, and shall give its consent in writing.
- (3) Neither the license nor any right under the license shall be assigned or otherwise transferred in violation of the provisions of Chapter 3748. of the Revised Code and the rules adopted thereunder.
- (4) Each person licensed by the department pursuant to the rules in Chapter 3701:1-TN of the Administrative Code shall confine his possession and use of TENORM to the locations and purposes authorized in the license. Except as otherwise provided in the license, a license issued pursuant to the rules in Chapter 3701:1-TN of the Administrative Code shall carry with it the right to receive, possess, and use TENORM. Preparation for shipment and transport of TENORM shall be in accordance with the provisions of Chapter 3701:1-50 of the Administrative Code.
- (5) The department may incorporate in any license at the time of issuance, or thereafter, by appropriate rule, regulation or order, such additional requirements and conditions with respect to the licensee's receipt, possession, use, and transfer of TENORM subject to this chapter as it deems appropriate or necessary in order to:

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- (a) Protect health or to minimize danger to life or property; and
  - (b) Require such reports and the keeping of such records, and to provide for such inspections of activities under the license as may be necessary or appropriate to effectuate the purposes of Chapter 3748. of the Revised Code and the rules adopted thereunder.
  - (c) Prevent loss, theft, or loss of control of TENORM subject to this chapter.
- (6) (a) Each licensee shall notify the department, in writing, within ten days following the filing of a voluntary or involuntary petition for bankruptcy under any chapter of title 11 (bankruptcy) of the United States Code by or against:
- (i) The licensee;
  - (ii) An entity (as that term is defined in 11 U.S.C. 101(14)) controlling the licensee or listing the license or licensee as property of the estate; or
  - (iii) An affiliate (as that term is defined in 11 U.S.C. 101(2)) of the licensee.
- (b) This notification must indicate:
- (i) The bankruptcy court in which the petition for bankruptcy was filed; and
  - (ii) The date of the filing of the petition.
- (7) Each licensee shall notify the department in writing prior to commencing activities to reclaim the licensed facility and site.
- (8) When a licensee has permanently ceased use of radioactive materials at a site or portion of a facility and the licensee has not decontaminated the area, or when an area has not been used for a period of two years, the licensee shall, within sixty days, provide the following information in writing to the department:
- (a) The location of the facility, site, or area;

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- (b) The plan for reclaiming or decontaminating the facility, site or area; and
  - (c) An evaluation of any changes to the financial assurance submitted in accordance with rule 3701:1-TN-12 of the Administrative Code.
- (9) Temporary Jobsites.
- (a) When temporary jobsites are authorized on a specific license, TENORM may be used at temporary jobsites throughout the state of Ohio in accordance with the reciprocal recognition provisions of rule 3701:1-TN-19 of the Administrative Code, in areas not under exclusive federal jurisdiction.
  - (b) Before TENORM can be used at a temporary jobsite at any federal facility within the state of Ohio, the jurisdictional status of the jobsite shall be determined as it pertains to the TENORM. Authorization for use of TENORM at jobsites under exclusive federal jurisdiction shall be obtained from the applicable federal agency.
- (B) Each person licensed under rule 3701:1-TN-10 of the Administrative Code shall:
- (1) Carry out adequate control procedures in the manufacture of the product to assure that each production lot meets the quality control standards approved by the department;
  - (2) Label or mark each unit so that the manufacturer, processor, producer, or initial transferor of the product and the TENORM in the product can be identified; and
  - (3) Maintain records identifying, by name and address, each person to whom TENORM is transferred for use under paragraph (B) of rule 3701:1-TN-07 of the Administrative Code or the equivalent regulations of another licensing state, and stating the kinds, quantities, and uses of TENORM transferred. An annual summary report stating the total quantity of each radionuclide transferred under the specific license shall be filed with the department. Each report shall cover the year ending December 31, and shall be filed within ninety days thereafter. If no transfers of TENORM have been made pursuant to paragraph (C) of rule 3701:1-TN-10 of the Administrative Code during the reporting period, the report shall so indicate.

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3701:1-TN-13      Financial assurance and record keeping for decommissioning.  
(NOT FINAL)

- (A) Prior to the department issuing a radioactive materials license, each applicant for a specific license or license renewal authorizing the possession and use of unsealed byproduct or accelerator produced material of half-life greater than one hundred twenty days and in quantities exceeding ten thousand times the applicable quantities set forth in appendix A to this rule shall submit a decommissioning funding plan as described in paragraph (D) of this rule. The decommissioning funding plan must also be submitted when a combination of radionuclides is involved if  $R$  divided by ten thousand is greater than one, where  $R$  is defined here as the sum of the ratios of the quantity of each radionuclide to the applicable value in appendix A to this rule.
- (B) Prior to the department issuing a radioactive materials license, each applicant for a specific license or license renewal authorizing possession and use of TENORM of half-life greater than one hundred twenty days and in quantities specified in paragraph (C) of this rule shall either:
- (1) Submit a decommissioning funding plan as described in paragraph (D) of this rule; or
  - (2) Submit a certification that financial assurance for decommissioning has been provided in the amount prescribed by paragraph (C) of this rule using one of the methods described in paragraph (E) of this rule. The applicant shall submit to the department, as part of the certification, a signed original of the financial instrument obtained to satisfy the requirements of paragraph (E) of this rule.
- (C) Prior to the department issuing a radioactive materials license, an applicant providing certification of financial assurance for decommissioning as specified in paragraph (B)(2) of this rule shall provide the certification in a monetary amount based upon the quantity of licensed material specified as follows:
- (1) Greater than one thousand but less than or equal to ten thousand times the applicable quantities of appendix A to this rule in unsealed form. For a combination of radionuclides, if  $R$ , as defined in paragraph (A) of this rule,

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divided by one thousand is greater than 1 but R divided by ten thousand is less than or equal to one, the sum of three hundred thousand dollars.

- (2) Greater than ten billion times the applicable quantities of appendix A to this rule in sealed sources or plated foils. For a combination of radionuclides, if R, as defined in paragraph (A) of this rule, divided by ten billion is greater than one, the sum of one hundred fifty thousand dollars.
- (D) Each decommissioning funding plan must contain a cost estimate for decommissioning and a description of the method of assuring funds for decommissioning in accordance with paragraph (E) of this rule, including the means for adjusting cost estimates and associated funding levels at each renewal over the life of the facility. The decommissioning funding plan must also contain a certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning and a signed original of the financial instrument obtained to satisfy the requirements of paragraph (E) of this rule.
- (E) Financial assurance for decommissioning, either by a decommissioning funding plan or certification of financial assurance, shall be provided by the licensee and approved by the department prior to the issuance of the license and shall be provided by one or more of the following methods:
- (1) Prepayment by depositing into an account segregated from licensee assets and outside the licensee's administrative control, cash or liquid assets such that the amount of funds will be sufficient to pay decommissioning costs. Prepayment may be in the form of a trust, escrow account, government fund, certificate of deposit, or deposit of government securities.
- (2) Surety, insurance, or other method in accordance with paragraph (F) of this rule that guarantees that decommissioning costs will be paid. A surety method may be in the form of a surety bond, letter of credit, or line of credit. A guarantee by the applicant or licensee may not be used in combination with any other financial methods used to satisfy the requirements of this paragraph or in any situation where the applicant or licensee has a parent company holding majority control of the voting stock of the company.

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- (3) A parent company guarantee of funds for decommissioning costs based on a financial test may be used provided that the parent company meets the requirements specified in appendix B of this rule. A parent company guarantee may not be used in combination with other financial methods to satisfy the requirements of this rule.
- (4) For commercial corporations that issue bonds, a guarantee of funds by the applicant or licensee for decommissioning costs based on a financial test may be used provided that the guarantee meets the requirements of appendix C to this rule.
- (5) For commercial companies that do not issue bonds, a guarantee of funds for decommissioning costs may be used provided that the guarantee meets the requirements of appendix D to this rule.
- (6) For nonprofit colleges, universities, hospitals, or research and development entities, a guarantee of funds for decommissioning costs may be used provided that the guarantee meets the requirements of appendix E to this rule. The director may require proof of nonprofit status.
- (7) An external sinking fund in which deposits are made at least annually, coupled with a surety method or insurance, the value of which may decrease by the amount being accumulated in the sinking fund. An external sinking fund is a fund established and maintained by setting aside funds periodically in an account segregated from licensee assets and outside the licensee's administrative control in which the total amount of funds would be sufficient to pay decommissioning costs at the time termination of operation is expected. An external sinking fund may be in the form of a trust, escrow account, government fund, certificate of deposit, or deposit of government securities. The surety or insurance provisions must be as stated in paragraph (E)(2) of this rule.
- (8) In the case of state or local government licensee, a statement of intent containing a cost estimate for decommissioning or an amount specified in paragraph (C)(1) to (C)(3) of this rule, and indicating that funds for decommissioning will be obtained when necessary. As used in this rule, "state or local government licensee" does not include government owned or assisted colleges, universities or hospitals.

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- (F) Any surety method or insurance used to provide financial assurance for decommissioning shall be in the form of instruments that contain language as provided in appendix F of this rule, and shall contain the following conditions:
- (1) The surety method or insurance must be open-ended or, if written for a specified term, such as five years, must be renewed automatically unless ninety days or more prior to the renewal date, the issuer notifies the director, the beneficiary, and the licensee of its intention not to renew. The surety method or insurance must also provide that the full face amount be paid to the beneficiary automatically prior to the expiration without proof of forfeiture if the licensee fails to provide a replacement acceptable to the director within thirty days after receipt of notification of cancellation.
  - (2) The surety method or insurance must be payable to a trust established for decommissioning costs. The trustee and trust must be acceptable to the director. An acceptable trustee includes an appropriate state or federal government agency or an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.
  - (3) The surety method or insurance must remain in effect until the director has terminated the license.
  - (4) The surety company issuing the bond must, at a minimum, be among those listed as acceptable in the most recent version of "Circular 570" of the United States department of the treasury.
- (G) A licensee must notify the department by certified mail within ten business days of the commencement of a voluntary or involuntary bankruptcy proceeding under Title 11 of the United States Code. A licensee who fulfills the financial assurance requirements by obtaining a trust fund, surety bond, or other acceptable financial assurance will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution issuing the instrument. The licensee shall establish other financial assurance within sixty days after such an event.

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- (H) Financial assurance for decommissioning, either by a decommissioning funding plan or certification of financial assurance that is provided by a contract of insurance shall not include any arrangement that constitutes self-insurance. As used in this rule:
- (1) "Insurance" means a contract issued or underwritten by an insurance company, insurance service, or insurance organization which is licensed to engage in the business of insurance in Ohio, that binds the insurer to indemnify another against a specified loss in return for premiums paid.
  - (2) "Self insurance" means a contract of insurance issued either by the licensee or by an insurer affiliated with or an affiliate of the licensee.
  - (3) "Affiliate of" or "affiliated with" means that the licensee, either directly or indirectly, through one or more intermediaries or subsidiaries, controls, is controlled by, or is under common control with the insurer.
  - (4) "Control", including "controlled by", and "under common control with" means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a person, whether through the ownership of voting securities, by contract, proxy, membership on the board, or otherwise.
- (I) Each person licensed under this chapter, and rule 3701:1-38-02 of the Administrative Code shall keep records of information important to the decommissioning of a facility in an identified location until the site is released for unrestricted use. Before licensed activities are transferred or assigned in accordance with paragraph (A)(2) of rule 3701:1-TN-17(16) of the Administrative Code licensees shall transfer all records described in this paragraph to the new licensee. In this case, the new licensee will be responsible for maintaining these records until the license is terminated. If records important to the decommissioning of a facility are kept for other purposes, reference to these records and their locations may be used. Information the department considers important to decommissioning consists of:
- (1) Records of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site. These records may be limited to instances when contamination remains after any cleanup procedures or when there is reasonable likelihood that contaminants may have



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spread to inaccessible areas as in the case of possible seepage into porous materials such as concrete. These records must include any known information on identification of involved nuclides, quantities, forms, and concentrations.

- (2) As-built drawings and modifications of structures and equipment in restricted areas where radioactive materials are used and/or stored, and of locations of possible inaccessible contamination such as buried pipes which may be subject to contamination. If required drawings are referenced, each relevant document need not be indexed individually. If drawings are not available, the licensee shall substitute appropriate records of available information concerning these areas and locations.
- (3) Except for areas containing depleted uranium used only for shielding or as penetrators in unused munitions, a list contained in a single document and updated every two years, of the following:
  - (a) All areas designated and formerly designated as restricted areas as defined in rule 3701:1-38-01 of the Administrative Code;
  - (b) All areas outside of restricted areas that require documentation under paragraph (1)(1) of this rule;
  - (c) All areas outside of restricted areas where current and previous wastes have been buried as documented under of rule 3701:1-38-20 of the Administrative Code; and
  - (d) All areas outside of restricted areas that contain material such that, if the license expired, the licensee would be required to either decontaminate the area to meet the criteria for decommissioning in rule 3701:1-38-22 of the Administrative Code, or apply for approval for disposal under rule 3701:1-38-19 of the Administrative Code.
- (4) Records of the cost estimate performed for the decommissioning funding plan or of the amount certified for decommissioning, and records of the funding method used for assuring funds if either a funding plan or certification is used.

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Pursuant to [cite applicable State statute], each licensee or applicant for a license subject to the requirements of rule 3701:1-TN-13 of the Administrative Code shall post with the department financial assurance, or security, to ensure the protection of the public health and safety and the environment in the event of abandonment, default, or other inability or unwillingness of the licensee to meet the requirements of the Act and these regulations. Financial assurance arrangements shall:

- (A) Consist of [surety bonds], [cash deposits], [certificates of deposit], [government securities], [irrevocable letters or lines of credit], [corporate guarantees], [insurance], [state funds],\*/ or any combination of these;

*\*/ State option; may include corporate guarantees, insurance, state funds, as state deems appropriate.*

- (B) Be in an amount sufficient to meet the applicant's or licensee's obligations under the Act and these regulations and shall be based upon department approved cost estimates;
- (C) Be established prior to issuance of the license or the commencement of operations to assure that sufficient funds will be available to carry out the decontamination and decommissioning of the facility;
- (D) Be continuous for the duration of the license and for a period coincident with the applicant or licensee's responsibility under Chapter 3748. of the Revised Code and the rules promulgated thereunder;
- (E) Be available in Ohio subject to judicial process and execution in the event required for the purposes set forth; and
- (F) Be established within ninety days of [the effective date of this regulation] for licenses in effect on that date.

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3701:1-TN-14      **Expiration and termination of licenses and decommissioning of sites and separate buildings or outdoor areas.**

- (A) Each specific license expires at the end of the day on the expiration date stated in the license unless the licensee has filed an application for renewal under rule 3701:1-38-02 of the Administrative Code not less than ninety days before the expiration date stated in the existing license. If an application for renewal has been filed at least ninety days before the expiration date stated in the existing license, the existing license expires at the end of the day on which the director makes a final determination to deny the renewal application or, if the determination states an expiration date, the expiration date stated in the determination.
- (B) Each specific license revoked by the director expires at the end of the day on the date of the director's final determination to revoke the license, or on the expiration date stated in the determination, or as otherwise provided by director order.
- (C) Each specific license shall continue in effect and shall be renewed during the decommissioning period until the director notifies the licensee in writing after decommissioning that the license is terminated. During this time, the licensee shall:
  - (1) Limit actions involving TENORM to those related to decommissioning; and
  - (2) Continue to control entry to any restricted area until that area is suitable for release in accordance with department requirements as may be imposed by Chapter 3748. of the Revised Code or rules adopted thereunder.
- (D) A licensee shall provide written notice to the director within sixty days of the occurrence of any of the following, in accordance with rule 3701:1-TN-04 of the Administrative Code:
  - (1) The license has expired;
  - (2) The licensee has decided to permanently cease licensed activities at the entire site or in any separate building, room, or outdoor area is unsuitable for release in accordance with the definition of "decommissioning" in Chapter 3748. of the

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Revised Code and the regulations for decommissioning in rule 3701:1-38-22 of the Administrative Code;

- (3) No licensed activities have been conducted for a period of twenty-four months;  
or
- (4) No licensed activities have been conducted for a period of twenty-four months in any separate building, room, or outdoor area that contains residual radioactivity such that the building, room, or outdoor area is unsuitable for release in accordance with Chapter 3748. of the Revised Code and the rule adopted thereunder.
- (E) In the event of an occurrence as set forth in paragraph (D) of this rule, the licensee shall either:
  - (1) Begin decommissioning the site, and any separate building, room or outdoor area that contains residual radioactivity so that the site, building, room and outdoor area are suitable for release in accordance with Chapter 3748. of the Revised Code and the rules adopted thereunder; or
  - (2) If required by paragraph (H)(1) of this rule, submit within twelve months of notification, a decommissioning plan and begin decommissioning upon the director's approval of that plan.
- (F) In addition to written notification of an occurrence, the licensee shall maintain all decommissioning financial assurances established by the licensee pursuant to rule 3701:1-TN-12 of the Administrative Code in conjunction with a license issuance or renewal or as required by this rule.
- (G) The director may grant a request to extend the twelve-month time period to submit a decommissioning plan established in paragraph (E)(2) of this rule provided that the director determines that the alternative schedule is necessary to the effective conduct of decommissioning operations and that the extension is not detrimental to the public health and safety or the environment and is otherwise in the public interest. The extension request must be submitted no later than thirty days after the occurrence for which notification is required. Decommissioning set forth in

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paragraph (E)(2) of this rule may not commence until the director has made a determination on the extension request.

- (H) The licensee shall submit a decommissioning plan to the director prior to commencing any decommissioning in the following cases:
- (1) If required by license condition; or
  - (2) If the procedures and activities necessary to carry out decommissioning of the site or separate building, room, or outdoor area have not been previously approved by the director and these procedures could increase potential health and safety risk to workers or to the public, such as in any of the following cases:
    - (a) Decommissioning procedures would involve techniques not applied routinely during cleanup or maintenance operations;
    - (b) Workers would be entering areas not normally occupied where surface contamination and radiation levels are significantly higher than routinely encountered during operation;
    - (c) Decommissioning procedures could result in significantly greater releases of radioactive material to the environment than those present during operation; or
    - (d) Decommissioning procedures could result in significantly greater releases of radioactive material to the environment than those associated with operation.
- (I) A proposed decommissioning plan for a site or separate building, room or outdoor area shall include the following:
- (1) A description of the conditions of the site or separate building, room or outdoor area sufficient to evaluate the acceptability of the plan;
  - (2) A description of planned decommissioning activities;
  - (3) A description of methods used to ensure protection of workers and the environment against radiation hazards during decommissioning;

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- (4) A description of the planned final radiation survey;
- (5) An updated detailed cost estimate for decommissioning, comparison of that estimate with present funds set aside for decommissioning, and a plan for assuring the availability of adequate funds for completion of decommissioning.
- (6) In the case of a decommissioning plan that results in the licensee completing decommissioning later than twenty-four months after plan approval, the plan shall include a justification for the delay based on the criteria in paragraph (K) of this rule. The proposed decommissioning plan will be approved by the director if the information therein demonstrates compliance with Chapter 3748. of the Revised Code and the rules adopted thereunder, that the decommissioning will be completed as soon as practicable, and that the health and safety of workers and the public will be adequately protected.
- (J) Except as provided in paragraph (K) of this rule, a licensee shall:
  - (1) Complete decommissioning of the site or separate building or outdoor area as soon as practicable but no later than twenty-four months following the initiation of decommissioning; and
  - (2) When decommissioning involves the entire site, request license shall request license termination as soon as practicable but no later than twenty-four months following the initiation of decommissioning, unless the decommissioning is still actively in progress.
- (K) The director may approve a request for an alternative schedule for completion of decommissioning and license termination. In considering whether an alternative schedule is warranted, the director shall consider the following:
  - (1) Whether it is technically feasible to complete decommissioning within twenty-four month period;
  - (2) Whether sufficient waste disposal capacity is available to allow completion of decommissioning within twenty-four month period;

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- (3) Whether a significant volume reduction in wastes requiring disposal will be achieved by allowing short-lived radionuclides to decay;
  - (4) Whether a significant reduction in radiation exposure to workers can be achieved by allowing short-lived radionuclides to decay; and
  - (5) Any other factor that the director finds is unique to the site, such as the regulatory requirements of other government agencies, lawsuits, groundwater treatment activities, monitored natural groundwater restoration, actions that could result in more environmental harm than deferred cleanup, and other factors beyond the control of the licensee.
- (L) After decommissioning the site, the licensee shall:
- (1) Certify the disposition of all licensed material, including accumulated wastes, by submitting a completed form HEA 5116, disposition of radioactive materials, provided by the director; and
  - (2) Conduct a radiation survey of the premises where the licensed activities were carried out and submit a report of the results of this survey, unless the licensee demonstrates in some other manner that the premises are suitable for release in accordance with the criteria for decommissioning set forth in rules promulgated pursuant to Chapter 3748, of the Revised Code. The licensee shall survey and report as follows:
    - (a) Levels of gamma radiation in units of millisieverts (microrentgen) per hour at one meter from surfaces, and report levels of radioactivity, including alpha and beta, in units of megabecquerels (disintegrations per minute or microcuries) per one hundred square centimeters removable and fixed for surfaces, megabecquerels (microcuries) per milliliter for water, and becquerels (picocuries) per gram for solids such as soils or concrete; and
    - (b) Identification of any survey instrument used and a certification that each instrument was properly calibrated and tested prior to being used to measure radioactivity at the site.

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(M) Specific licenses, including expired licenses, will be terminated by written notice to the licensee when the director determines that:

- (1) TENORM has been properly disposed;
- (2) Reasonable effort has been made to eliminate residual radioactive contamination, if present;
- (3) A radiation survey has been performed which demonstrates that the premises are suitable for release in accordance with the criteria for decommissioning, or other information is submitted by the licensee that is sufficient to demonstrate that the premises are suitable for release in accordance with the criteria for decommissioning in this chapter and rule 3701:1-38-22 of the Administrative Code adopted pursuant to Chapter 3748. of the Revised Code;
- (4) All applicable fees have been paid.



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3701:1-TN-15      **Unrestricted use and conditional release.**

The following criteria apply for persons subject to a specific or general license under this chapter:

- (A) Equipment can be released from the site for unrestricted use when that equipment is not contaminated with TENORM at levels greater than those in rule 3701:1-TN-20 of the Administrative Code. Upon application, specific approval of alternative levels may be granted by the director.
- (B) The director shall release a site for unrestricted use upon request by the licensee who has demonstrated to the director that the following applicable criteria have been met:
  - (1) The average member of the critical group will not receive annually a public dose in excess of 0.25 millisievert (0.025 rem) TEDE from residual radioactive materials on site other than residual TENORM radium-226 and radium-228 and their progeny;
  - (2) The concentration of residual TENORM radium-226 and radium-228, on land averaged over one hundred square meters, is less than one hundred eighty-five becquerels per kilogram (five picocuries per gram) above the background concentration, averaged over any fifteen centimeter layer of soil. The fifteen centimeter layers are contiguous depth increments from the surface down. Each of the progeny radionuclides of the residual TENORM radium-226 and radium-228 may also be present in concentrations similar to the residual TENORM radium-226 and radium-228 concentration;
  - (3) Where residual TENORM radium-226 and radium-228 and their progeny and other residual TENORM radionuclide contamination are present, the sum of fractions shall be used for combining the criteria of paragraphs (B)(1) and (B)(2) of this rule. The sum of fractions is determined by dividing each average radium concentration by the radium limit of one hundred eighty-five becquerels per kilogram (five picocuries per gram) and dividing the estimated annual dose from other residual TENORM radionuclides by 0.25 millisievert (0.025 rem) and then adding the ratios together. The sum of the fractions must be less than, or equal to, one to meet this criterion; and

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- (4) The license termination requirements are in rule 3701:1-38-22 of the Administrative Code.
- (C) Persons with a specific license shall comply also with requirements of paragraphs (A)(7) and (A)(8) of rule 3701:1-TN-12 of the Administrative Code and rule 3701:1-TN-14 of the Administrative Code that are applicable to remediation and termination of the license.
- (D) Persons with a general license shall also notify the director in writing prior to commencing activities to reclaim the site. Decontamination activities require a specific license.
- (E) Actions taken to confine TENORM on site or to remediate sites shall be based on expected longevity-related controls for one thousand years **[or longer].\*** /

*\*/ The emphasis of CERCLA policies for permanent solutions and the License Termination Rule of Part O of these regulations should be considered by the Agency.*

- (F) Equipment contaminated with TENORM in excess of levels specified in rule 3701:1-TN-20 of the Administrative Code may be transferred pursuant to paragraph (E) of rule 3701:1-TN-08 of the Administrative Code.
- (G) Other transfers of TENORM shall be in accordance with rules 3701:1-TN-03, 3701:1-TN-08, and 3701:1-TN-18 of the Administrative Code.
- (H) When the general licensee has permanently ceased use of radioactive materials at a site or portion of a site or facility or when an area has not been used for a period of two years, the licensee shall, within sixty days, provide the following information in writing to the director:
- (1) The location of the site or area; and
  - (2) The plan for reclaiming or decontaminating the site or area.

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3701:1-TN-16      **Reporting requirements.**

- (A) Except as provided in paragraph (D) of this rule, each licensee shall notify the department as soon as possible, but not later than four hours after the discovery of an event that prevents immediate protective action necessary to avoid exposure to radiation or radioactive material that could exceed regulatory limits, or a release of licensed material that could exceed regulatory limits. An event that requires such an immediate report may include a fire, explosion, or toxic gas release.
- (B) Each licensee shall notify the department within twenty-four hours after the discovery of any of the following events involving licensed material:
  - (1) An unplanned contamination event that involves:
    - (a) Access to the contaminated area, by workers or the public, to be restricted for more than twenty-four hours by imposing additional radiological controls or by prohibiting entry into the area;
    - (b) A quantity of material greater than five times the lowest annual limit on intake specified in the appendices to rule 3701:1-38-12 of the Administrative Code adopted pursuant to Chapter 3748. of the Revised Code; and
    - (c) Access to the area restricted for a reason other than to allow radionuclides with a half-life of less than twenty-four hours to decay prior to decontamination.
  - (2) An event in which equipment is disabled or fails to function as designed when:
    - (a) The equipment is required by regulation or license condition to prevent a release exceeding regulatory limits, to prevent exposure to radiation or radioactive material exceeding regulatory limits, or to mitigate the consequences of an accident;
    - (b) The equipment is required to be available and operable when it is disabled or fails to function; and

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- (c) No redundant equipment is available and operable to perform the required safety function.
- (3) An event that requires unplanned medical treatment of an individual with spreadable radioactive contamination on the individual's clothing or body.
- (4) An unplanned fire or explosion damaging any licensed material or any device, container, or equipment containing licensed material when:
  - (a) The quantity of material involved is greater than five times the lowest annual limit on intake specified in the appendices to rule 3701:1-38-12 of the Administrative Code adopted pursuant to Chapter 3748. of the Revised Code; and
  - (b) The damage affects the integrity of the licensed material or its container.
- (C) The licensee shall prepare and submit a report in response to the requirements of this rule as follows:
  - (1) Licensees shall make reports required by paragraph (A) and (B) of this rule by telephone, to the department at the telephone number listed in the notice to employees required by paragraph (A)(1)(e) of rule 3701:1-38-10 of the Administrative Code. To the extent that the information is available at the time of notification, the information provided in these reports must include:
    - (a) The caller's name and call back telephone number;
    - (b) A description of the event, including date and time;
    - (c) The exact location of the event;
    - (d) The radionuclides, quantities, and chemical and physical form of the licensed material involved; and
    - (e) Any personnel radiation exposure data available.

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- (2) Each licensee who makes a report required by paragraphs (A) or (B) of this rule shall submit a written follow-up report within thirty days of the initial report. Written reports prepared pursuant to other regulations may be submitted to fulfill this requirement if the report contains all of the necessary information and the appropriate distribution is made. These written reports shall be sent to the department in the manner specified in rule 3701:1-TN-04 of the Administrative Code. The report must include the following:
- (a) A description of the event, including the probable cause and the manufacturer and model number, if applicable, of any equipment that failed or malfunctioned;
  - (b) The exact location of the event;
  - (c) The radionuclides, quantities, and chemical and physical form of the licensed material involved;
  - (d) Date and time of the event;
  - (e) Corrective actions taken or planned and the results of any evaluations or assessments; and
  - (f) The extent of exposure of individuals to radiation or to radioactive materials without identification of individuals by name.
- (D) This rule applies to all licensees possessing material licensed under rule 3701:1-38-02 of the Administrative Code. This rule does not apply to material under a license subject to the notification requirements in 10 C.F.R. 50.72.
- (E) An applicant for a license or a licensee shall notify the department within two working days of information identified by the applicant or licensee as having for the regulated activity, an active adverse impact on equipment or personnel readily obvious by human observation or instrumentation, or a radiological impact on personnel or the environment in excess of regulatory limits. An applicant or licensee violates this paragraph only if the applicant or licensee fails to notify the director of information that the applicant or licensee has or should have identified.

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3701:1-TN-17      **Records.**

(A) Each person who receives TENORM under a license issued pursuant to the rules in this chapter, and other chapters of the Administrative Code adopted pursuant to Chapter 3748. of the Revised Code, and rule 3701:1-38-02 of the Administrative Code, shall keep records showing the receipt, transfer, and disposal of the TENORM as follows:

- (1) The licensee shall retain each record of receipt of TENORM as long as the material is possessed and for three years following transfer or disposal of the material.
- (2) The licensee who transferred the material shall retain each record of transfer for three years after each transfer unless otherwise specified by rule for that particular licensed activity.
- (3) The licensee who disposed of the material shall retain each record of disposal of TENORM until the director terminates each license that authorizes disposal of the material.

(B) Except as provided in paragraph (C) of this rule, the licensee shall retain each record that is required by this chapter, Chapters 3701:1-44, 3701:1-46, 3701:1-48, 3701:1-49, 3701:1-52, and 3701:1-58 of the Administrative Code, and rule 3701:1-38-02 of the Administrative Code, or by license condition for the period specified by the appropriate regulation or license condition. If a retention period is not otherwise specified by rule or license condition, the record must be retained until the director terminates each license that authorizes the activity that is subject to the record-keeping requirement. Such records may be either the original record or a reproduced copy or microform, provided that such copy or microform is duly authenticated by authorized personnel and the microform is capable of producing a clear and legible copy after storage for the period specified by the director. The record also may be stored in electronic media provided that the licensee is capable of producing legible, accurate, and complete records during the required retention period. Records such as letters, drawings, specifications, must include all pertinent information such as stamps, initials, and signatures. The licensee shall maintain adequate safeguards against record tampering and loss.

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- (C) In the case of a conflict between a record requirement specified in rule and that requirement specified as a license condition, the licensee shall comply with the license condition.
- (D) If licensed activities are transferred or assigned in accordance with paragraph (B) of rule 3701:1-40-19 the Administrative Code, each licensee authorized to possess radioactive material, with a half-life greater than one hundred twenty days, in an unsealed form, shall transfer the following records to the new licensee and the new licensee will be responsible for maintaining these records until the license is terminated:
- (1) Records of disposal of licensed material made under rule 3701:1-38-19 of the Administrative Code, including any burial authorized under a United States nuclear regulatory commission license on or before January 28, 1981, or a previous "section 20.304" permitted burial of a small quantity of licensed material in soil by a United States nuclear regulatory commission licensee on or before January 28, 1981, without specific authorization, in accordance with 10 C.F.R. 20.304 as that section existed on January 1, 1981.
  - (2) Records required by rule 3701:1-38-20 of the Administrative Code promulgated pursuant to Chapter 3748, of the Revised Code.

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3701:1-TN-18      **Disposal and transfer of waste for disposal.**

- (A) Each person subject to specific or general license requirements of this chapter shall manage and dispose of wastes containing TENORM:
- (1) By transfer of the wastes for storage, treatment, or disposal at a facility licensed by the department, the applicable agency of another state, or the United States nuclear regulatory commission, or authorized by the United States department of energy for storage, treatment, or disposal of TENORM;
  - (2) By transfer of the wastes for storage, treatment, or disposal to a facility licensed by the department, the applicable agency of another state, or the United States nuclear regulatory commission for storage, treatment or disposal of low-level radioactive waste unless the disposal facility license prohibits disposal of TENORM;
  - (3) By transfer of the waste for disposal at a permitted solid or hazardous waste disposal facility, provided such facility is not prohibited from receiving and disposing such TENORM waste and the disposal is in accordance with applicable federal and state law;
  - (4) By disposal in an injection well approved in accordance with [insert reference to appropriate state regulation] or by transfer for disposal at an out-of-state injection well approved by the applicable governmental authority;
  - (5) By transfer for disposal in another state as otherwise approved by the applicable governmental authority and with written approval of the department; or
  - (6) In accordance with alternate methods authorized by the permitting agency for the disposal site upon application or upon the department's initiative, consistent with rule 3701:1-38-19 of the Administrative Code and, where applicable, the Clean Water Act, Safe Drinking Water Act and other requirements of the United States environmental protection agency for disposal of such wastes.
- (B) Records of disposal, including manifests for TENORM, shall be maintained consistent with the provisions of rule 3701:1-38-20 of the Administrative Code.



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- (C) Purposeful dilution of TENORM waste for the sole purpose of making the waste exempt from the disposal requirements shall not be performed without prior department approval. The criteria in rule 3701:1-38-19 of the Administrative Code shall be used by the department to determine whether or not to approve such a request. Dilution resulting from normal product processing is not considered purposeful dilution.

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3701:1-TN-19      Recognition of agreement state licenses - reciprocity.

- (A) Subject to these rules, any person who holds a specific license from another agreement state or licensing state, issued by the department having jurisdiction where the licensee maintains an office for directing the licensed activity and at which radiation safety records are normally maintained, is hereby granted a general license to conduct the activities authorized in such licensing document within the state of Ohio for a period not in excess of one hundred eighty days in any twelve month period, provided that:
- (1) A current copy of the licensing document or equivalent authorization is on file with the department and the authorized activities are not limited to specified installations or locations;
  - (2) The out-of-state licensee notifies the department by telephone, telefacsimile, telegraph, or letter prior to engaging in such activity. Such notification shall indicate the location, period, and type of proposed possession and use within the state. Upon receipt from the out-of-state licensee of a written request which contains a schedule of activities to be conducted within the state of Ohio, the department will waive the requirement for additional notifications during the twelve month period following the receipt of the initial notification from a person engaging in activities under the general license provided in paragraph (A) of this rule;
  - (3) The out-of-state licensee complies with all applicable rules of the department and with all the terms and conditions of the licensing document or equivalent authorization, except any such terms and conditions which may be inconsistent with applicable regulations of the department;
  - (4) The out-of-state licensee supplies any other information necessary to show compliance with these rules; and
  - (5) The out-of-state licensee shall not transfer or dispose of TENORM possessed or used under the general license provided in paragraph (A) of this rule except by transfer to a person:

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- (a) Specifically licensed by the department or by another licensing state to receive such TENORM; or
  - (b) Exempt from the requirements for a license for such TENORM under rule 3701:1-TN-07 of the Administrative Code.
- (B) The department may withdraw, limit or qualify its acceptance of any specific license or equivalent authorization issued by a licensing state, or any product distributed pursuant to such license or equivalent authorization, if the department determines that, had the out-of-state licensee been licensed by the state of Ohio, the licensee's license would have been subject to action under rule 3701:1-38-06 of the Administrative Code.

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3701:1-TN-20 Acceptable surface contamination levels for TENORM.

	AVERAGE <sup>2, 3, 6</sup>	MAXIMUM <sup>2, 4, 6</sup>	REMOVABLE <sup>2, 3, 5, 6</sup>
Alpha	5,000 dpm /100 cm <sup>2</sup>	15,000 dpm /100 cm <sup>2</sup>	1,000 dpm /100 cm <sup>2</sup>
Beta/Gamma	5,000 dpm /100 cm <sup>2</sup>	15,000 dpm /100 cm <sup>2</sup>	1,000 dpm /100 cm <sup>2</sup>

- <sup>1</sup> Where surface contamination by both alpha and beta-gamma emitting radionuclides exists, the limits established for alpha and beta-gamma emitting radionuclides should apply independently.
- <sup>2</sup> As used in this table, disintegrations per minute (dpm) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.
- <sup>3</sup> Measurements of average contamination level should not be averaged over more than one square meter. For objects of less surface area, the average should be derived for each object.
- <sup>4</sup> The maximum contamination level applies to an area of not more than one hundred square centimeters.
- <sup>5</sup> The amount of removable radioactive material per one hundred square centimeters of surface area should be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of surface area A (where A is less than one hundred square centimeters) is determined, the entire surface should be wiped and the contamination level multiplied by one hundred/A to convert to a "per one hundred square centimeters" basis.
- <sup>6</sup> The average and maximum radiation levels associated with surface contamination resulting from beta-gamma emitters should not exceed two microgray per hour (0.2

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milliroentgen per hour) at one centimeter and ten microgray per hour (one milliroentgen per hour) at one centimeter, respectively, measured through not more than seven milligram per square centimeter of total absorber.



# OHIO DEPARTMENT OF HEALTH

Division of Radiation Protection  
100 North High Street  
Columbus, Ohio 43260-1096

Phone: (614) 464-2200  
Fax: (614) 464-2201

Internet: [www.odh.ohio.gov](http://www.odh.ohio.gov)

To: Requesting Organization / Representative

Subject: Request for Regulatory Concurrence

Chapter 3748 of the Ohio Revised Code (ORC) and Ohio Administrative Code (OAC) rules adopted there under establish that the Ohio Department of Health, Bureau of Radiation Protection (ODH/BRP) is the State of Ohio Radiation Control Agency and the licensing agency for possession and use of radioactive materials. However, there are certain types and quantities of radioactive materials that are exempt from ODH/BRP licensing requirements. Individuals or organizations seeking to dispose of radioactive materials that they have determined are exempt from ODH/BRP licensure may elect to submit a written request for ODH/BRP regulatory concurrence. Please be advised that the disposal facility owner/operator has the final decision on whether or not a waste is acceptable for disposal at their facility. ODH/BRP will render a regulatory position on subject materials provided by the requesting organization. The minimum required information is as follows:

1. Identify the specific OAC regulations that you have determined applies to the material in question.
  - OAC 3701-39-02.1, **Standards for Handling Radioactive Material**
  - OAC 3701:1-44-09, **Unimportant Quantities of Source Material**
  - OAC 3701:1-40-08, **Exempt Concentrations and Appendix**
  - OAC 3701:1-40-09, **Certain Items Containing Byproduct or Accelerator Produced Material**
  - OAC 3701:1-40-11, **Exempt Quantities and Appendix**
  - OAC 3701:1-40-12, **Self-Luminous products**
  - OAC 3701:1-40-13, **Gas and Aerosol Detectors Containing Byproduct or Accelerator Produced Material**
2. Provide a detailed history of the subject material including but not limited to:
  - Where did it come from?
  - What was it used for?
  - Who currently possesses it or controls access to it? (Name, address, phone)
  - Where is the subject material physically located right now?
  - If it's not physically located in Ohio, what (if any) has been the host state's involvement thus far? (include host state contact information)

3. Provide a detailed physical description of the subject material including, but not limited to:
  - Physical size (provide dimensions)
  - Photographs (provide a 360 degree view)
  - MSDS sheets (if any)
  - Physical amount (volume, weight, number of pieces)
4. Provide a detailed radiological analysis of subject material including, but not limited to:
  - Radiological survey results (activity in ccpm and/or dose rates on contact and at 30 cm)
  - Supporting quality assurance (calibration records, source checks, surveyor credentials)
  - Radioisotopic analysis of material ( HPCGe Gamma specific printout or alpha spectroscopy with radionuclide identifications and concentrations)
  - Supporting quality assurance ( calibration records, results, spikes, duplicates, operator credentials)

Upon receipt of a request for regulatory concurrence, ODH/BRP will evaluate the documentation submitted and make a determination of whether or not we agree that the subject material is exempt from the cited OAC licensing requirement. Upon completion of our review, a letter of regulatory concurrence or non-concurrence will be issued to each requesting organization.

If you have any question, please contact Jim Colleli of my staff at 614-728-0882 direct or E-mail: [Jim.Colleli@odh.ohio.gov](mailto:Jim.Colleli@odh.ohio.gov).

Sincerely,



Chuck McCracken, Supervisor  
Decommissioning & waste Management  
Ohio Department of Health  
Bureau of Radiation Protection