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OHIO DEPARTMENT OF HEALTH

246 North High Street
Post Office Box 118
Columbus, Ohio 43266-0118
Telephone: (614) 466-3543



Bob Taft
Governor

J. Nick Baird, M.D.
Director of Health

Re: SP-99-074

November 8, 1999

Frederick C. Combs, Deputy Director
Office of State Programs
USNRC
One White Flint North
3rd Floor
11555 Rockville Pike
Rockville, Maryland 20852

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OSP

Dear Mr. Combs:

I am writing in response to your memo of November 2, 1999, and your request for information regarding the following:

Question 42: Does Ohio have a definition for "waste," "disposal," "effluent," "by-product material," "transfer," and "release limits."

Response: Ohio has adopted through incorporation by reference standards for by-product material, source material, and special nuclear material in 10CFR 19, 20, 21, 30-36, 39, 40, 61, 70, 71 and sections 150.3(b), 150.3 (f), 150.10, 150.11, 150.15 (a), 150.31, and 150.32 including definitions for "waste," "disposal," and "by-product materials." Ohio has not adopted a rule defining "transfer," "release limits," or "effluent."

Question 43: What, if any radiological criteria (e.g. total activity, activity per unit area, or dose rate) pertain to the unrestricted release of solid materials in Ohio standards, guidance, or Ohio license authorizations? If the criteria differentiate between surficial and volumetric contamination, please identify that fact.

Response: Ohio standards authorize the disposal of certain products and materials as specified in OAC 3701-39-02, (B)(2) that is enclosed. Ohio also uses NRC Regulatory Guide 1.86 in decision-making regarding disposition of certain resources contaminated with radioactive materials. Section 3748.10 of the Ohio Revised Code provides that low-level radioactive waste can only be treated, stored, re-cycled, or disposed at a facility licensed by the department.

Ohio has adopted the same release limits that were adopted by NRC in Subpart E of 10 CFR 20. Anything contaminated with radioactive material that is removed from a site is low-level radioactive waste. Following Section 3748.10 of the Ohio Revised Code, such material must be disposed at a facility that is licensed to receive and dispose low-level radioactive waste. Decontamination of objects is done using NRC guidelines. The objects are inspected and released in accordance with NRC guidelines. Ohio's criteria regarding surficial and volumetric contamination differentiate to the same extent that NRC Regulatory Guide 1.86 differentiates between these types of contamination.

If I can provide you with additional information regarding this matter, please contact me at 614-644-2727.

Sincerely yours,

Roger L. Suppes, Chief
Bureau of Radiation Protection

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SP-A-4

SP-A6-31

PDR STPRG

3701-39-021 Standards for handling radioactive material.

- (A) In accordance with section 3748.21 of the Revised Code, this rule does not apply to any person to the extent that the person is subject to regulation by the United States nuclear regulatory commission. Except for a facility that is licensed for the disposal of low-level radioactive waste, and except as otherwise provided in paragraphs (B) to ~~(E)~~ (K) of this rule, any facility that handles radioactive material for which a license is required by Chapter 3748. of the Revised Code and this rule shall comply with standards and requirements set forth in 10 C.F.R. parts 19 to ~~20~~ 21, parts 30 to 36, parts 39 to 40, part 61, parts 70 to 71, and SECTIONS 150.3(b), 150.3(f), 150.10, 150.11, 150.15(a), 150.31 AND 150.32 OF 10 C.F.R. part 150, as those parts exist on the effective date of this rule, and as if those parts had included naturally occurring or accelerator-produced material. This rule supersedes provisions of Chapters 3701-38, 3701-39, 3701-40, 3701-70 and 3701-71 of the Administrative Code that were effective prior to September 1, 1995, relating to standards and requirements for the receipt, possession, use, storage, installation, transfer, servicing, and disposal of radioactive material, including the closure, decontamination, decommissioning, reclamation, and long-term surveillance and care of radioactive material. Standards set forth for byproduct material in 10 C.F.R. parts 19 to ~~20~~ 21, parts 30 to 36, part 39, part 61, part 71, and SECTIONS 150.3(b), 150.3(f), 150.10, 150.11, 150.15(a), 150.31 AND 150.32 OF 10 C.F.R. part 150 shall apply to NARM. Standards set forth for source material in 10 C.F.R. part 40 shall apply to NARM. 10 C.F.R. part 70 shall not apply to NARM. As used in this rule, "naturally occurring radioactive material" or "NORM" means any nuclide that is radioactive in its natural physical state, but does not include source material, byproduct material, or special nuclear material. As used in this rule, "naturally occurring or accelerator-produced radioactive material" or "NARM", means naturally occurring or accelerator-produced radioactive material, including naturally occurring material that is technologically enhanced, and those nuclides that are generated in a charged particle accelerator, but does not include source material, byproduct material, or special nuclear material. As used in this rule, "technologically enhanced" means the chemical

properties or physical state of natural sources of radiation have been altered or the potential exposure pathways of natural sources of radiation to humans have been altered to increase the human radiation exposure. In all cases where the "commission" or "nuclear regulatory commission" is referenced in 10 C.F.R. parts 19 to ~~20~~ 21, parts 30 to 36, parts 39 to 40, part 61, parts 70 to 71, and SECTIONS 150.3(b), 150.3(f), 150.10, 150.11, 150.15(a), 150.31 AND 150.32 OF 10 C.F.R. part 150, that term shall refer to the director, EXCEPT THAT THE TERM SHALL CONTINUE TO REFER TO THE NUCLEAR REGULATORY COMMISSION FOR THOSE ACTIVITIES WHICH JURISDICTION IS SPECIFICALLY RETAINED BY THE COMMISSION IRRESPECTIVE OF ANY AGREEMENT WITH THE STATE OF OHIO PURSUANT TO SECTION 274(B) OF THE "ATOMIC ENERGY ACT". In all cases where "special nuclear material" is referenced, that term shall refer to quantities not sufficient to form a critical mass.

(B) Notwithstanding paragraph (A) of this rule, in addition to the exemptions listed in 10 C.F.R. 30.15, and 10 C.F.R. 30.71, the following activities are exempt from licensure, unless the director determines that the dose received by workers or the public would reach the occupational dose limits set forth in 10 C.F.R. 20.1502:

(1) The handling, distribution, or processing of:

- (a) Soil containing technologically enhanced radium-226 or radium-228 with a radon emanation rate less than $7.4e-1$ becquerels per square meter per second (20 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 1.0 becquerel per gram (27 picocuries per gram);
- (b) Soil containing technologically enhanced radium-226 or radium-228 with a radon emanation rate equal to or greater than $7.4e-1$ becquerels per square meter per second (20 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 $1.85e-1$ becquerel per gram (5 picocuries per gram);

- (c) Media, other than soil, containing technologically enhanced radium-226 or radium-228 with a radon emanation rate less than $7.4e-1$ becquerels per square meter per second (20 picocuries per square meter per second) provided that the concentration of technologically enhanced radium-226 or radium-228 does not exceed 1.0 becquerel per gram (27 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 $7.4e-1$ becquerels per square meter per second (20 picocuries per square meter per second) provided that the concentration of technologically enhanced radium-226 or radium-228 does not exceed $1.85e-1$ becquerel per gram (5 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 4.995 becquerels per gram (135 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 4.995 becquerels per gram (135 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 (25 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;
 - (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; 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 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.
- (7) The possession, storage, use, transportation and commercial distribution, when not intended for medical use, of the following:

<u>Radionuclide</u>	<u>Quantity in microcuries</u>	<u>Quantities in mbq</u>
Cobalt 57	100	3.7
Gallium 67	100	3.7
Gold 195	10	0.37
Indium 111	100	3.7
Iodine 123	100	3.7
Iron 52	10	0.37
Radium 224,226, 228	0.10	0.0037
Rubidium 81	10	0.37
Sodium 22	10	0.37

- (8) Products or materials containing NARM distributed in accordance with a specific license or an equivalent license issued by a conference of radiation control program directors (CRCPD) licensing state or another NARM licensing state or United States nuclear regulatory commission agreement state.
- (9) A component of a particle accelerator that becomes radioactive as part of the particle accelerator operation unless the radioactive component is removed from the immediate proximity of the particle accelerator, or is altered in physical or chemical form.
- (C) Notwithstanding paragraph (A) of this rule, any facility that handles NARM for which license is required by Chapter 3748. of the Revised Code does not have to comply with the following standards or requirements as indicated:
- (1) Information collection and the United States office of management and budget (OMB) approval provisions of 10 C.F.R. 30.8, 10 C.F.R. 31.4, 10 C.F.R. 32.8, 10 C.F.R. 33.8, 10 C.F.R. 34.8, 10 C.F.R. 35.8, 10 C.F.R. 36.8, 10 C.F.R. 39.8, 10 C.F.R. 40.8, 10 C.F.R. 61.8, 10 C.F.R. 70.8, and 10 C.F.R. 71.6.

- (2) References requiring communication to the United States nuclear regulatory commission. Instead, the required communication shall be directed to the director, Ohio department of health, P.O. ~~box~~ BOX 118, Columbus, Ohio 43266-0118. An incident or a misadministration requiring reporting shall be made by calling (614)644-2727.
 - (3) References to written interpretations by the United States nuclear regulatory commission contained in 10 C.F.R. 30.5, 10 C.F.R. 36.5, 10 C.F.R. 37.5, 10 C.F.R. 40.6, 10 C.F.R. 61.5, 10 C.F.R. 70.6, and 10 C.F.R. 71.2.
 - (4) References to the import or export of source, byproduct, and special nuclear material.
 - (5) References to any fees. Instead, fees shall be assessed and collected in accordance with Chapter 3748. of the Revised Code and rules adopted thereunder.
 - (6) References to any enforcement, or civil or criminal penalties. Instead, enforcement activities and civil or criminal penalties shall be in accordance with Chapter 3748. of the Revised Code.
 - (7) References to self-insurance financial assurance arrangements in 10 C.F.R. 30.35. Instead, financial assurance arrangements shall be in accordance with division (I)(3) of section 3748.04 of the Revised Code.
- (D) Notwithstanding paragraph (A) of this rule, the requirements of 10 C.F.R. part 35 are in addition to any applicable licensing requirements contained in Chapter 4773. of the Revised Code.
- (E) Notwithstanding paragraph (A) of this rule, in addition to the ~~listed certifying bodies~~ REQUIREMENTS for CERTIFICATION OF industrial radiographers contained in ~~paragraph (b) (5) of 10 C.F.R. 34.11~~ 10 C.F.R. PART 34, the director may accept a certification by the conference of radiation control program directors (CRCPD), the state of Texas industrial radiographer certification, or any other certifying body

approved by the director.

(F) 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 subject to public disclosure in accordance with section 1333.51 of the Revised Code.

(G) SUBJECT TO PARAGRAPH (H) OF THIS RULE, ANY PERSON WHO HOLDS A SPECIFIC LICENSE FROM ANOTHER AGREEMENT STATE OR NARM LICENSING STATE, OR THE UNITED STATES NUCLEAR REGULATORY COMMISSION AND WHO MAINTAINS AN OFFICE FROM WHICH THE LICENSEE DIRECTS THE LICENSED ACTIVITY AND RETAINS RADIATION SAFETY RECORDS, WILL BE GRANTED RECIPROCITY IN THE STATE OF OHIO TO CONDUCT THE SAME LICENSED ACTIVITY PROVIDED THAT:

- (1) THE RECIPROCITY FORM IS CURRENT;
- (2) THE PERSON HAS NOT VIOLATED CHAPTER 3748 OF THE REVISED CODE OR THE RULES ADOPTED THEREUNDER; AND
- (3) THE PERSON NOTIFIES THE DEPARTMENT IN ACCORDANCE WITH PARAGRAPH (H) OF THIS RULE AND PAYS THE APPROPRIATE FEE.

THE UNITED STATES NUCLEAR REGULATORY COMMISSION RETAINS AUTHORITY TO ISSUE A GENERAL LICENSE TO CONDUCT THE SAME ACTIVITY IN NON-AGREEMENT STATES, AREAS OF EXCLUSIVE FEDERAL JURISDICTION WITHIN AGREEMENT STATES, AND OFFSHORE WATERS. THE PROVISIONS OF THIS PARAGRAPH DO NOT APPLY IF THE AGREEMENT STATE, NARM LICENSING STATE, OR THE UNITED STATES NUCLEAR REGULATORY COMMISSION SPECIFIC LICENSE LIMITS THE AUTHORIZED ACTIVITY TO A SPECIFIC INSTALLATION OR LOCATION NOT WITHIN OHIO.

(H) A PERSON APPLYING FOR RECIPROCITY IN THE STATE OF OHIO AS SPECIFIED IN PARAGRAPH (G) OF THIS RULE SHALL DO THE FOLLOWING:

- (1) AT LEAST THREE DAYS PRIOR TO ENGAGING IN EACH ACTIVITY FOR THE FIRST TIME IN A CALENDAR YEAR, THE PERSON SHALL SUBMIT ON A FORM PROVIDED BY THE DIRECTOR, AN

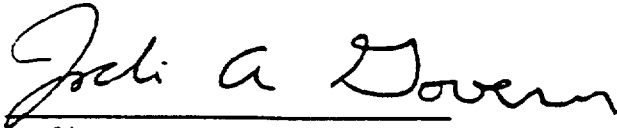
APPLICATION FOR RECIPROCITY TO CONDUCT THE ACTIVITY IN THE STATE OF OHIO, A COPY OF HIS OR HER NRC OR AGREEMENT STATE SPECIFIC LICENSE, AND THE APPROPRIATE FEE AS PRESCRIBED IN RULE 3701-38-021 OF THE ADMINISTRATIVE CODE. IF THE PERSON, DUE TO AN EMERGENCY, IS UNABLE TO FILE THE SUBMITTAL THREE DAYS BEFORE ENGAGING IN ACTIVITIES UNDER RECIPROCITY, THE DEPARTMENT MAY WAIVE THE THREE-DAY TIME REQUIREMENT PROVIDED THAT THE LICENSEE:

- (a) INFORMS THE DEPARTMENT BY TELEPHONE OR FACSIMILE OF THE INFORMATION PROVIDED ON THE RECIPROCITY APPLICATION;
 - (b) RECEIVES ORAL OR WRITTEN AUTHORIZATION FOR THE ACTIVITY FROM THE DEPARTMENT; AND
 - (c) WITHIN THREE DAYS AFTER THE NOTIFICATION, FILES THE RECIPROCITY APPLICATION FORM, A COPY OF THE NRC OR AGREEMENT STATE LICENSE, AND THE APPROPRIATE FEE.
- (2) THE PERSON SHALL FILE AN AMENDED RECIPROCITY FORM WITH THE APPROPRIATE FEE WITH THE DEPARTMENT TO REQUEST APPROVAL FOR CHANGES IN WORK LOCATIONS, RADIOACTIVE MATERIAL, OR WORK ACTIVITIES DIFFERENT FROM THE INFORMATION CONTAINED ON THE INITIAL RECIPROCITY APPLICATION.
- (I) AN OHIO RECIPROCITY AGREEMENT SHALL EXPIRE ON THE LAST DAY OF DECEMBER OF THE SAME YEAR THAT THE RECIPROCITY AGREEMENT WAS ISSUED. NO PERSON SHALL ENGAGE IN THE ACTIVITIES AUTHORIZED BY AN OHIO RECIPROCITY AGREEMENT FOR MORE THAN ONE HUNDRED AND EIGHTY DAYS IN ANY CALENDAR YEAR.
- (J) A LICENSEE THAT IS ENGAGING IN ACTIVITIES AUTHORIZED BY AN OHIO RECIPROCITY AGREEMENT SHALL COMPLY WITH ALL TERMS AND CONDITIONS OF THE SPECIFIC LICENSE FOR WHICH OHIO RECIPROCITY WAS ISSUED, EXCEPT FOR SUCH TERMS OR CONDITIONS AS ARE CONTRARY TO THE REQUIREMENTS OF THIS RULE.
- (K) NOTWITHSTANDING PARAGRAPH (A) OF THIS RULE, THE REGULATIONS FOR LICENSE TERMINATION SET FORTH IN SUBPART E OF 10 C.F.R.

20 SHALL BE LIMITED TO AN UNRESTRICTED RELEASE WHERE THE RESIDUAL RADIOACTIVITY THAT IS DISTINGUISHABLE FROM BACKGROUND RADIATION RESULTS IN A TOTAL EFFECTIVE DOSE EQUIVALENT TO AN AVERAGE MEMBER OF THE CRITICAL GROUP THAT DOES NOT EXCEED TWENTY-FIVE MILLIREM PER YEAR (25 MREM/YR) OR TWO HUNDRED AND FIFTY MICRO SIEVERT PER YEAR ($250\mu\text{SV/YR}$), INCLUDING THAT FROM GROUNDWATER SOURCES OF DRINKING WATER, AND THE RESIDUAL RADIOACTIVITY HAS BEEN REDUCED TO LEVELS THAT ARE AS LOW AS REASONABLY ACHIEVABLE (ALARA). THE PROVISIONS IN 10 C.F.R. 20 SUBPART E APPLICABLE TO A RESTRICTED RELEASE MAY APPLY PROVIDED THAT THE LICENSE IS NOT TERMINATED. AS USED IN THIS RULE, THE TERM "DECOMMISSIONING" HAS THE SAME MEANING AS DEFINED IN DIVISION (D) OF SECTION 3748.01 OF THE REVISED CODE. WHEN A RESTRICTED RELEASE IS PROPOSED BY A LICENSEE, A LICENSE IS REQUIRED TO ASSURE THAT THE PROVISIONS OF THE DECOMMISSIONING PLAN AS APPROVED BY THE DIRECTOR REMAIN EFFECTIVE. IN ACCORDANCE WITH THE PROVISIONS OF 10 C.F.R. 20.1401(C) AND 10 C.F.R. 20.1403, THE LICENSE WILL CONTAIN A CONDITION THAT THE DIRECTOR WILL NOT REQUIRE FURTHER CLEAN-UP UNLESS HE OR SHE DETERMINES THAT RESIDUAL RADIOACTIVITY AT THE SITE COULD RESULT IN A SIGNIFICANT THREAT TO PUBLIC HEALTH AND SAFETY. IN ACCORDANCE WITH 10 C.F.R. 20.1401(B)(3), THE DIRECTOR WILL APPROVE A DECOMMISSIONING PLAN SUBMITTED AND APPROVED BY THE COMMISSION ON OR BEFORE THE EFFECTIVE DATE OF ANY AGREEMENT WITH THE STATE OF OHIO PURSUANT TO SECTION 274(B) OF THE "ATOMIC ENERGY ACT". ANY FACILITY THAT HAS BEEN DECOMMISSIONED AND HAS HAD THE NUCLEAR REGULATORY COMMISSION LICENSE TERMINATED IN ACCORDANCE WITH A PLAN APPROVED BY THE COMMISSION ON OR BEFORE THE EFFECTIVE DATE OF ANY AGREEMENT WITH THE STATE OF OHIO PURSUANT TO SECTION 274(B) OF THE "ATOMIC ENERGY ACT", WILL NOT BE REQUIRED TO OBTAIN A LICENSE OR CONDUCT FURTHER CLEAN-UP UNLESS THE DIRECTOR DETERMINES THAT RESIDUAL RADIOACTIVITY AT THE SITE COULD RESULT IN A SIGNIFICANT THREAT TO PUBLIC HEALTH AND SAFETY.

Effective date: October 19, 1998

Certified by:



Jodi Govern, Secretary
Public Health Council

10/9/98

Date

Rule promulgated under: Chapter 119.

Rule authorized by: section 3748.02

Rule amplifies: sections 3748.01 to 3748.07, 3748.10 to
3748.11, 3748.13 to 3748.22, 3748.99

R.C. 119.032 review date: 10/01/03

Prior effective date: 6/9/97