

COMMONWEALTH OF KENTUCKY
CABINET FOR HEALTH AND FAMILY SERVICES
DEPARTMENT FOR PUBLIC HEALTH
RADIATION HEALTH BRANCH
RADIOACTIVE MATERIALS SECTION
FRANKFORT, KY 40621

November 17, 2016

**KDPH REGULATORY ISSUE SUMMARY 2016-01
REQUIREMENTS FOR DISPOSING OF RADIOACTIVE WASTE BY DECAY-IN-STORAGE TO BE
CONSISTENT WITH 10 CFR 35.92**

ADDRESSEES

All holders of and applicants for Kentucky Department for Public Health (KDPH) medical use licenses, and licenses of broad scope.

INTENT

KDPH is issuing this regulatory issue summary (RIS) to: (1) Supply information to assist licensees in complying with current KDPH requirements related to disposing of radioactive waste by decay-in -storage; (2) identify inconsistencies between KDPH's requirements and the requirements of the U.S. Nuclear Regulatory Commission (NRC); and (3) announce interim guidance that KDPH will use in implementing the requirements for disposal of radioactive waste by decay-in-storage to be consistent with the requirements of 10 CFR 35.92.

No specific action or written response is required.

BACKGROUND

KDPH's administrative rules 902 KAR 100:072 "Use of Radionuclides in Health Arts" section 29 permits licensees to dispose of radioactive materials with a physical half-life less than 120 days and items contaminated with such radioactive materials as normal waste without regard for radioactivity if the licensee does the following: (1) holds the radioactive material for decay a minimum of 10 half-lives; (2) monitors radioactive material at the surface before disposal and determines that its radioactivity cannot be distinguished from the background radiation level with an appropriate radiation detection survey meter set on its most sensitive scale and with no

interposed shielding; (3) removes or obliterates all radiation labels, except for radiation labels on materials that are within and that will be managed as biomedical waste after they have been released from the licensee; and (4) retains a record of each disposal for three years which contains: (a) the date of the disposal; (b) date on which the radioactive material was placed in storage; (c) radionuclides disposed; (d) model and serial number of the survey instrument used; (e) background dose rate; (f) radiation dose rate measured at the surface of each waste container; and (g) name of the individual who performed the disposal.

Currently the licensee is required to hold all radioactive waste for disposal by decay-in-storage for a minimum of 10 half-lives before such waste can be considered for disposal. Due to some radionuclides used by licensees this requirement places an unnecessary burden to store waste for up to several months and to separate wastes based on the physical half-lives of the radionuclides present such as the Strontium-85 contaminant present in the Strontium-82/Rubidium-82 Generator which has a physical half-life of 65 days; therefore under the current requirements a licensee would be required to store waste for at least 650 days.

SUMMARY OF ISSUE

The current requirement in paragraph (1)(a) for the licensee to retain waste onsite for a minimum of 10 physical half-lives is unnecessary because the requirement in paragraph (1)(b) which precludes disposal of radioactive material until radiation levels adjacent to the material do not exceed background. Additionally the requirements in 10 CFR 35.92 were revised in 2002 (67 FR 20370) to remove the requirement to hold radioactive waste for a minimum of 10 half-lives. It is unclear why 902 KAR 100:072 was not revised to remove this requirement at the time Part 35 was changed.

Additionally 10 CFR 35.92 allows for the disposal of radionuclides with a physical half-life of less than or **equal** to 120 days; 902 KAR 100:072 Section 29(1) omits radionuclides with a physical half-life equal to 120 days from the decay-in-storage provisions.

KDPH's overall plan to update the requirements contained in 902 KAR chapter 100 includes adopting the applicable Parts of 10 CFR by reference. 902 KAR 100:072 will be amended to

adopt the requirements of 10 CFR Part 35 by reference and at that point the inconsistencies that exists between the requirements imposed by KDPH and NRC will be resolved and licensees will be able to dispose of material with a physical half –life less than or **equal** to 120 days by decay-in-storage without holding the material for 10 half-lives.

In the interim KDPH recognizes that it would be advantageous for licensees to dispose of material by decay-in-storage without holding the material for 10 half-lives as currently required by 902 KAR 100:072. There is no impact on public health and safety by disposing of the material before it has decayed 10 half-lives. Therefore licensees may dispose of radioactive material with a physical half-life of less than or **equal to** 120 days as authorized by 902 KAR 100:072 without holding the material for decay a minimum of 10 half-lives provided the licensee complies with 902 KAR 100:072 section 29:(1)(b) and (c); and (2)(a),(c),(d),(e),(f), and (g).

CONTACT

This RIS requires no specific action or written response. Please direct any questions to the technical contact listed below.



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