Discussion Questions

November 3, 2022

Discrete Radioactive Particles (DRPs) in Decommissioning Workshop

Discussion Period

ORISE/Scan Minimum Detectable Activity (MDA) Questions

- i. Can a surveyor expect to achieve even lower scan MDAs if using collimators or larger detectors?
- ii. How does a licensee address scanning if a DRP contains mostly hard-to-detect radionuclides (HTDs)?
- iii. Is a scan for DRPs sufficient to also satisfy MARSSIM scanning requirements (e.g., sufficient to identify elevations above the DCGL_{EMC})? Note: The preferred approach is to address DRPs prior to the final status survey (FSS).
- iv. What may be considered an "adequate" scan MDA and investigation level for DRPs (i.e., what is the expectation for sites with DRPs)?
- v. Should a surveyor use an alarm set point to indicate when the scan MDA is exceeded and/or requires investigation?
- vi. Would the MARSSIM classification system apply with respect to scanning requirements for DRPs (e.g., 100 percent scan survey for Class 1 areas)?
- vii. Are there other good practices beyond what was discussed today when scanning for DRPs?

Discussion Period

Exposure Scenario Questions

- i. Who are the potentially exposed individuals?
- ii. How do you determine the likelihood of interaction with a particle?
- iii. What are the risk significant exposure pathways for DRPs?

Discussion Period

General

- i. Should likelihood of exposure be considered as part of the decision-making process (e.g., potentially considered a less likely but plausible scenario)?
- ii. Is there a DRP activity level below which there is no concern for license termination?
- iii. What other actions should licensees take during decommissioning to limit releases to the environment?
- iv. If DRPs are present below a scannable depth (e.g., below surface soil), what actions can a licensee take to demonstrate that there are no subsurface DRPs of concern present?

RCD/Dose Conversion Factor Questions

- i. Should DRP dose conversion factors (DCFs) for different age groups or sensitive groups be developed?
- ii. What should DRP exposure times be based on (external and internal) (e.g., how long does a DRP remain on the skin)?
- iii. Are there other methods for development of DRP DCFs that should be considered besides the ones discussed today?
- iv. Are there other radionuclides associated with DRPs that should be considered besides the ones discussed today?