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?