



U.S. Nuclear Regulatory Commission
**34th ANNUAL REGULATORY
INFORMATION CONFERENCE**

MARCH 8-10, 2022

PREPARING FOR
TOMORROW

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Guidance and Other Decommissioning Initiatives

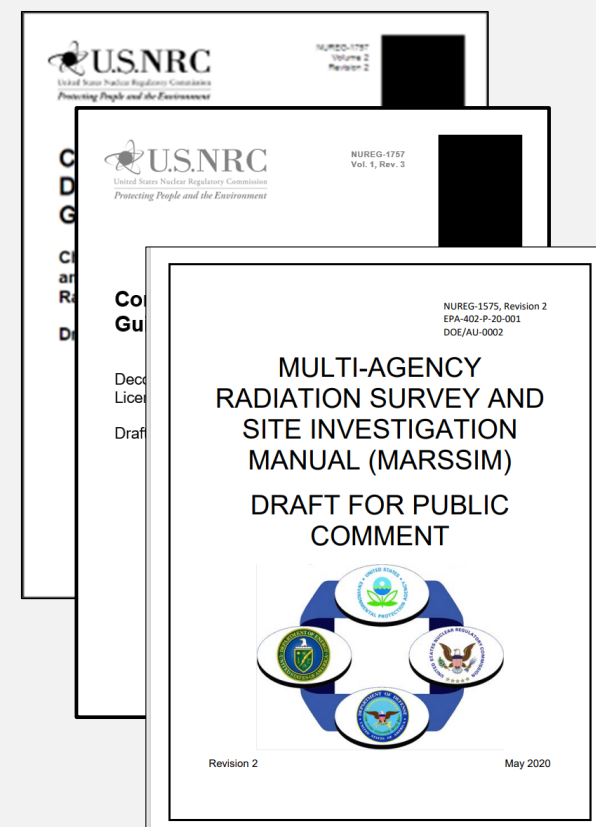
Cynthia Barr, Senior Risk Analyst

Division of Decommissioning, Uranium Recovery, and
Waste Programs



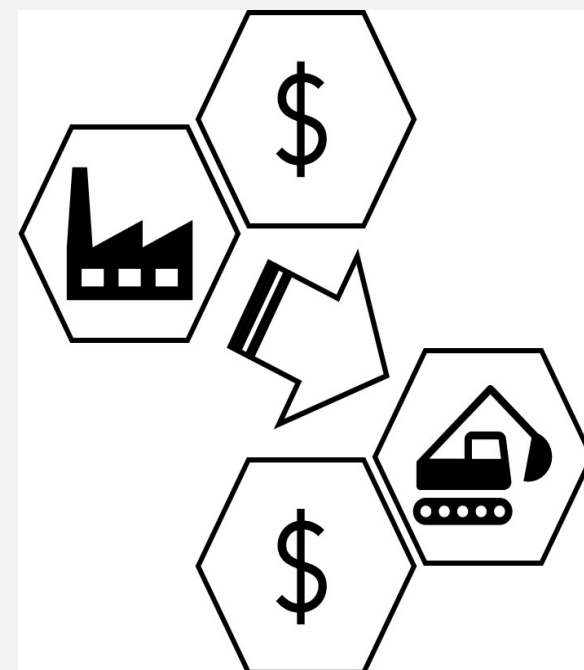
Guidance Updates

- NUREG-1757, “Consolidated Decommissioning Guidance”
 - Volume 1, Rev. 3, “Decommissioning Process for Materials Licensees” (to be issued as draft for public comment)
 - Volume 2, Rev. 2, “Characterization, Survey, and Determination of Radiological Criteria” (to be finalized summer 2022)
- NUREG-1575, Rev. 2, “Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)” (to be finalized)



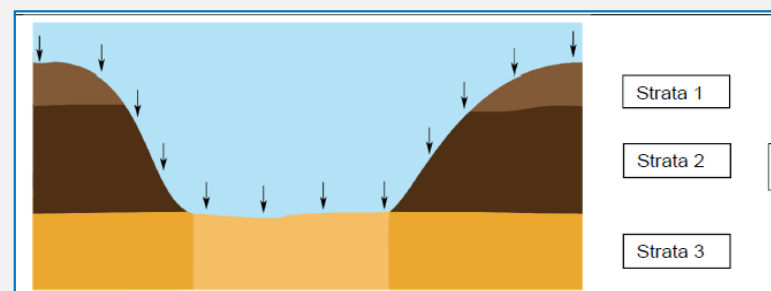
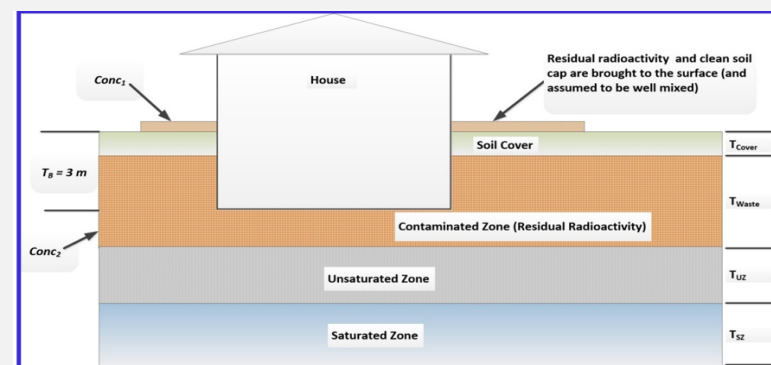
Significant Changes to NUREG-1757, Volume 1

- Provides guidance related to fees as sites transition from the operational to the decommissioning life cycle phase
- Includes new guidance on 10 CFR 20.1406 requirements related to the minimization of contamination
- Updates information on the Site Decommissioning Management Plan (SDMP)



Major Changes to NUREG-1757, Volume 2

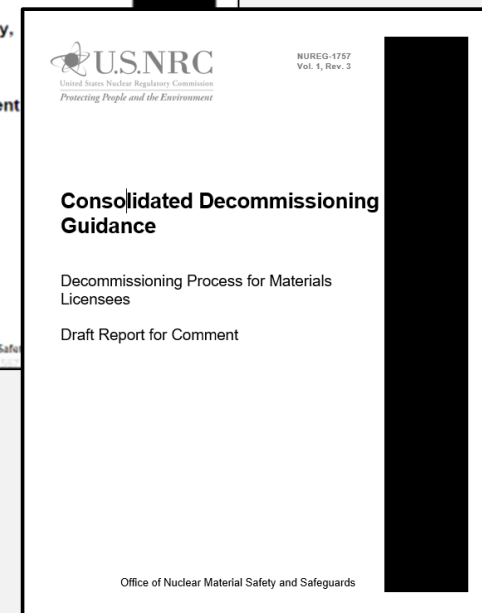
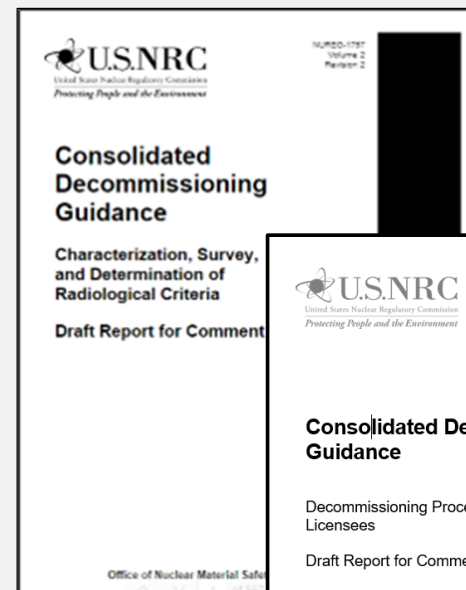
- Dose modeling updates
 - Model abstraction and simplification
 - Exposure scenarios for buried radioactivity
 - Consideration of elevated areas
 - Support for distribution coefficients
 - Uncertainty analysis considerations
- Radiological surveys updates
 - Surveys of open excavations
 - Surveys of soils/materials for reuse
 - Alternative statistical tests
 - Composite sampling





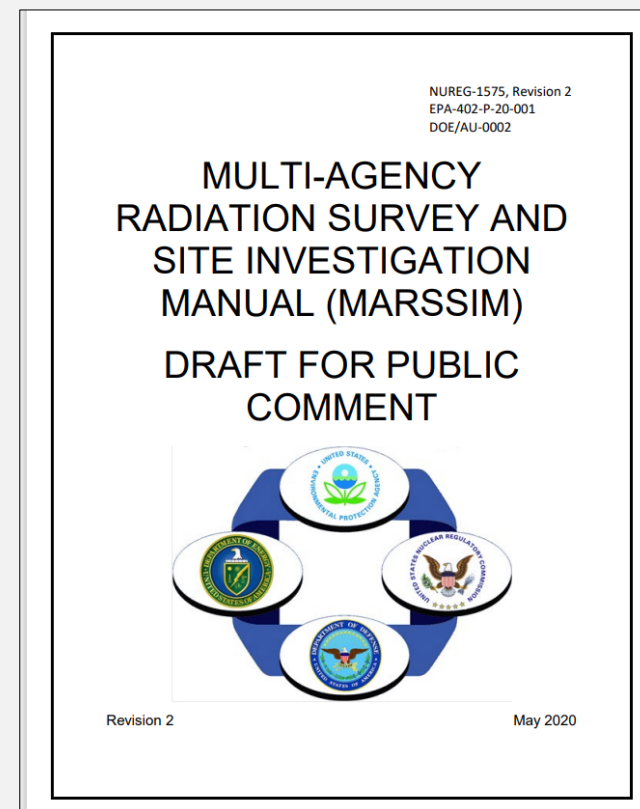
NUREG-1757 Path Forward

- Volume 1, Rev. 3, has been developed and is expected to be issued for public comment in late 2022
- Volume 2, Rev. 2, was issued for public comment in December 2020 (ADAMS Accession No. [ML20273A010](#))
 - Over 200 comments in nine comment letters
 - Final publication expected in summer 2022
 - Interim guidance to be developed later in 2022/2023 to address remaining comments



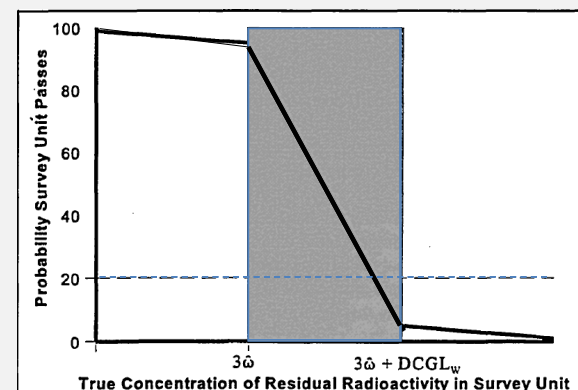
MARSSIM, Revision 2

- EPA leads the working group for this multiagency guidance document
- Notable updates include—
 - Scan-only surveys
 - Statistical tests and associated parameters
 - Treatment of elevated areas
 - Measurement quality objectives
 - Updated field instruments
 - Rank set sampling
- Public comment period ended February 2022
- Science Advisory Board peer reviewed



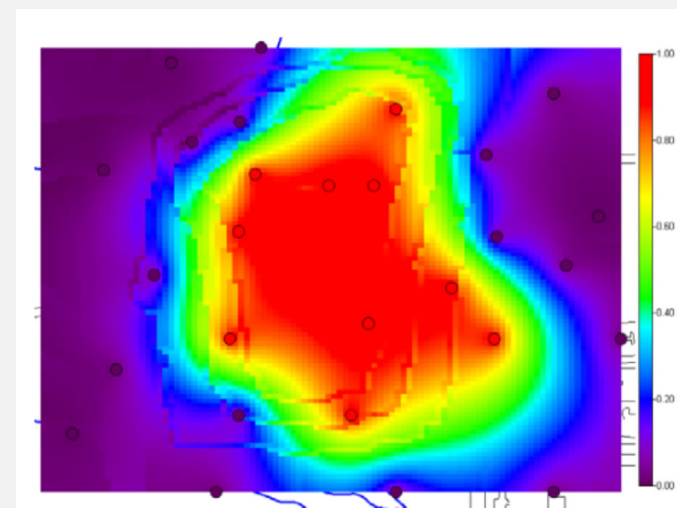
MARSSIM, Revision 2, Comments

- Scan survey considerations (validation, metrics)
- Need for guidance in the areas of—
 - Modern survey systems with data logging
 - Discrete radioactive particles
 - Subsurface radiological surveys
- Measurement quality objectives/uncertainty
- Scenario B applicability/test parameters
- Surrogate ratios for hard-to-detect radionuclides
- Additional examples for multiple radionuclides



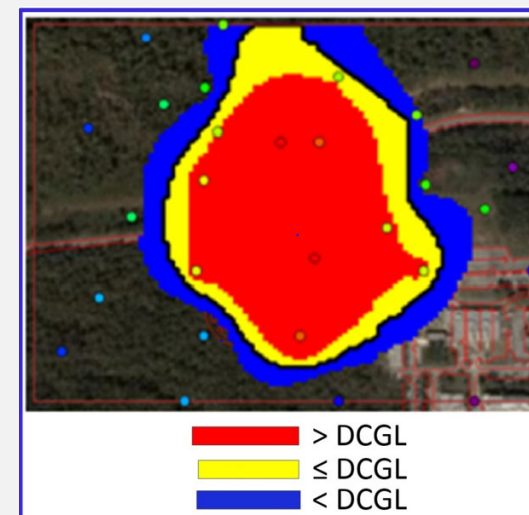
Other Decommissioning Guidance and Code Development Initiatives

- Subsurface investigations guidance
- Discrete radioactive particles guidance
- Visual Sample Plan (VSP) computer code improvements



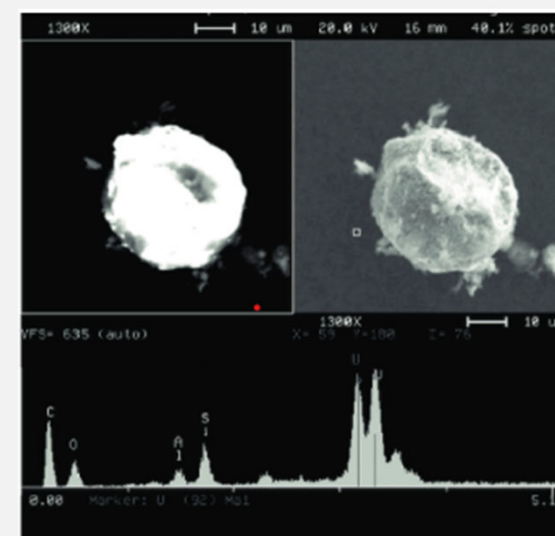
Subsurface Investigation Guidance

- Workshop held July 2021 with over 160 participants
- SC&A technical report to be completed March 2022
- VSP scoping tools report to be completed April 2022
- Second workshop planned for May 11, 2022, to accept comments on technical report and discuss proposed methodologies
- Interim guidance to be completed in late 2022/early 2023



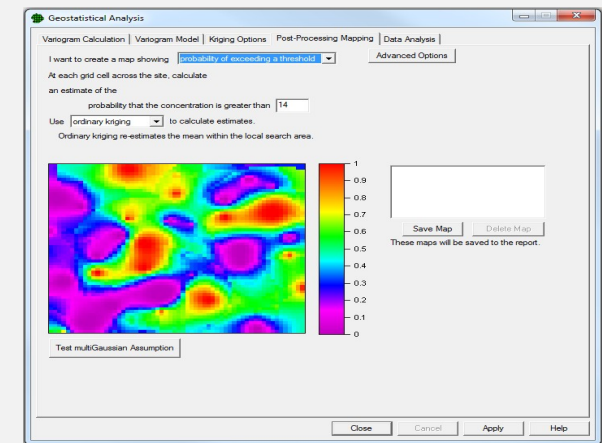
Discrete Radioactive Particles (DRP)

- DRP survey methods
- DRP dosimetry
 - Skin dose
 - Inhalation and ingestion dose
 - Exposure scenarios
- How to control DRPs
- Workshops to take place late 2022
- Need for interim guidance or some other form of communication currently under staff consideration



Visual Sample Plan (VSP)

- Prospective and retrospective power curves—Scenario B
- Calculation of reference area variability (Kruskal-Wallis/ANOVA) with user specification of test parameters
- Quantile test parameters (power, quantile/critical value)
- Add three-dimensional capabilities
- Scoping out subsurface survey tools
- Add tools for modern data logging systems (without surveyor vigilance or with autonomous vehicles)



Conclusions

- Several guidance initiatives are completed or well underway to share lessons learned and experience from the review of license termination plans and final status surveys
- NRC has contracted work to improve the guidance in complex technical areas not currently addressed in Federal guidance
- NRC has solicited feedback from stakeholders and provided opportunities for public participation in the process; additional opportunities are planned
- Improvements to computational tools are being made to facilitate survey design, data analysis, and risk assessment
- NRC is committed to working with its stakeholders to increase the timeliness and efficiency of the decommissioning process while ensuring public health and safety during and following decommissioning and site release





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Back-up slides



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NUREG-1757, Volume 1

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