

Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) Revision 2 Factsheet

The Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) Workgroup, comprised of experts from the Environmental Protection Agency (EPA), the Nuclear Regulatory Commission (NRC), the Department of Energy (DOE), and the Department of Defense (DoD), has completed revisions to MARSSIM. The revisions are available for public comment from June 16th to September 14th, 2021 through the Federal Register.

The MARSSIM revisions intend to: update the document to reflect most current science; clarify methods; and implement lessons learned from over 20 years of the document’s use in industry. This factsheet aims to explain both what the substantive changes are and why they were made.

Changes made in MARSSIM Revision 2	Explanation for Change
Inclusion of Measurement Quality Objectives (MQOs), including measurement uncertainty	Updated to comply with current NIST and ISO guidance, and include most current scientific standards
Inclusion of Scan-only surveys	Updated to keep MARSSIM up to date with the most current technology used for these processes
Inclusion of “Scenario B”: sites assumed to meet the criteria until proven otherwise	Updated to provide a compliance method for sites when release criteria are “no added radioactivity” or “indistinguishable from background”
Increased emphasis on regulator interaction during survey design	Updated based on feedback from regulatory users of the document
Updates to survey instrumentation information	Updated to keep MARSSIM up to date with the most current technology used for these processes
Improvements to the description of the Lower Bound of the Gray Region (LBGR)	Updated with more plain language to provide clarity and increase consistency of use throughout the document
Updates to increase consistency in terminology and use terms across manuals	Updated to increase consistency with MARLAP and MARSAME
Expansions to information on requirements for areas of elevated (radio)activity	Updated to provide clarity for survey designers to better understand what is needed in areas of elevated radioactivity
Exclusion of discrete radioactive particle surveys	Updated to indicate where MARSSIM is not the appropriate method for demonstrating compliance
Inclusion of use of MARSSIM in accordance with the Uranium Mill Tailings Radiation Control Act (UMTRCA)	Updated to provide additional guidance for complying with existing regulatory requirements, specifically using MARSSIM to demonstrate compliance with UMTRCA
Inclusion of ranked set sampling for hard-to-detect radionuclides	Updated to provide additional flexibility for specific cases

The MARSSIM Workgroup also incorporated organizational, and terminology changes for clarity throughout the document. Additional explanation and examples have been included where users of the document found previous wording unclear.

To comment on the proposed revisions, please visit <https://www.federalregister.gov/documents/2021/06/16/2021-12654/multi-agency-radiation-survey-and-site-investigation-manual-revision-2>.

The public comment period opens June 16th, 2021 and closes September 14th, 2021.

For more information about the proposed revisions, please visit <https://www.epa.gov/radiation/frequent-questions-about-radiation-protection#marssim>.