



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JAN 16 2009

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

OSWER 9355.5-26

**MEMORANDUM**

**SUBJECT:** Distribution of Superfund Preliminary Remediation Goals for Radionuclides in Outdoor Surfaces (SPRG) Electronic Calculator

**FROM:** James E. Woolford, Director  
Office of Superfund Remediation and Technology Innovation

**TO:** Superfund National Policy Managers, Regions 1–10

**Purpose**

The purpose of this memorandum is to transmit the final electronic calculator entitled: “Superfund Preliminary Remediation Goals for Radionuclides in Outdoor Surfaces (SPRG).” The radionuclide SPRG calculator is found at the following website <http://epa-sprg.ornl.gov/>. The electronic calculator is intended to help risk assessors, remedial project managers, and others involved with risk assessment and decision-making at sites with contaminated hard outside surfaces (e.g., building slabs, outside building walls, sidewalks and roads). The electronic calculator provides guidance for establishing risk-based PRGs for remedial actions at radioactively contaminated hard outside surfaces under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).<sup>1</sup> The calculator addresses contaminated dust and fixed

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<sup>1</sup> The electronic calculator transmitted by this memorandum provides guidance on preliminary remediation goals under CERCLA and is consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). It does not alter the NCP’s general expectations for remedial actions, such as those regarding treatment of principal threat waste and the use of containment and institutional controls for low-level threat waste. Consistent with CERCLA and the NCP, remedial actions need to attain or waive applicable or relevant and appropriate requirements (ARARs); potential ARARs for contaminated ground water at radiation sites typically include Maximum Contaminant Levels (MCLs) or non-zero Maximum Contaminant Level Goals (MCLGs) established under the Safe Drinking Water Act.

This electronic calculator provides guidance to U.S. Environmental Protection Agency (EPA) staff on how to establish risk-based SPRGs. The guidance is designed to be consistent with EPA’s national guidance on these values. The electronic calculator does not, however, substitute for EPA’s statutes or regulations, nor is it a regulation itself. Thus, it cannot impose legally binding requirements on EPA, states, or the regulated

surface or volumetric contamination on or inside hard outside surfaces located in areas having a residential or commercial/industrial land use.

When initially used at the scoping phase of a project taking into account readily available information, risk-based SPRGs generally are modified based on site-specific data gathered during the Remedial Investigation and Feasibility Study phase. SPRG development and screening should assist staff in streamlining the consideration of remedial alternatives. Radionuclide-specific SPRGs are from two general sources: (1) concentrations based on potential applicable or relevant and appropriate requirements (ARARs) and (2) concentrations based on risk assessment. ARARs often include concentration limits set by other environmental regulations, such as Safe Drinking Water Act maximum contaminant levels (MCLs). The second source for SPRGs, and the focus of this database tool, typically is risk-based calculations that set concentration limits using toxicity values under specific exposure condition.

## **Background**

EPA issued guidance entitled “Establishment of Cleanup Levels for CERCLA Sites with Radioactive Contamination” (OSWER No. 9200.4-18, August 22, 1997). This 1997 guidance provided clarification for establishing protective cleanup levels for remedial actions involving radioactive contamination. The 1997 guidance also reiterated that remedial actions for radionuclides are governed by the risk range for all carcinogens established in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) when ARARs are not available or are not sufficiently protective. Thus, for example, remedial actions should generally achieve a level of risk within the  $10^{-4}$  to  $10^{-6}$  carcinogenic risk range based on the reasonable maximum exposure for an individual.<sup>2</sup> In addition, in calculating cleanup levels, one should include exposures from all potential pathways, and through all media (e.g., soil, ground water, surface water, sediment, air, structures, etc.). Furthermore, the 1997 guidance provides a listing of radiation standards that are likely to be used as ARARs to establish cleanup levels for remedial actions.

The attached SPRG calculator is part of a continuing effort by the Office of Superfund Remediation and Technology Innovation (OSRTI) to provide updated guidance for addressing radioactively contaminated sites consistent with our guidance for addressing chemically contaminated sites, taking into account the technical differences between radionuclides and chemicals. OSRTI intends for this effort to facilitate cleanups that are consistent with the NCP at radioactively contaminated sites and to incorporate new information based on improvements to the Superfund program that have been implemented through Administrative Reforms.

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community, and may not apply to a particular situation based upon the circumstances. EPA may change this guidance in the future, as appropriate.

<sup>2</sup> This calculator for the remedial program defaults towards PRGs based on a  $1 \times 10^{-6}$  cancer risk. Please note the removal program, when conducting emergency and time-critical removal responses involving carcinogenic contaminants generally uses Removal Action Levels (RALs) based on a cancer risk of  $1 \times 10^{-4}$ .

A draft version of the SPRG calculator underwent external peer review in 2008. Comments received during that peer review have been addressed and revisions made to the calculator, as appropriate. An earlier draft of SPRG calculator underwent internal EPA regional review in 2007.

### **Implementation**

For questions regarding radiation site policy and guidance for CERCLA cleanup actions, readers are referred to the Superfund Radiation Webpage at <http://www.epa.gov/superfund/health/contaminants/radiation/index.htm>.

The subject matter specialist for this calculator is Stuart Walker of OSRTI. He can be reached by e-mail at [walker.stuart@epa.gov](mailto:walker.stuart@epa.gov) or by telephone at (703) 603-8748.

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