



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

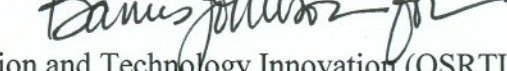
OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

AUG 29 2007

OSWER No. 9355.0-114

MEMORANDUM

SUBJECT: Distribution of Superfund Preliminary Remediation Goals for Radionuclides in Buildings (BPRG) Electronic Calculator

FROM: James E. Woolford, Director 
Office of Superfund Remediation and Technology Innovation (OSRTI)

TO: Superfund National Policy Managers, Regions 1 - 10

PURPOSE

The purpose of this memorandum is to transmit the final electronic calculator entitled: "Preliminary Remediation Goals for Radionuclides in Buildings (BPRG)." The BPRG calculator is found at the following website <http://epa-bprg.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 buildings. The electronic calculator provides guidance for establishing risk-based preliminary remediation goals (PRGs) for remedial actions at radioactively contaminated buildings under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).¹ The calculator addresses contaminated

¹The electronic calculator transmitted by this memorandum provides guidance on preliminary remediation goal issues for CERCLA remedial actions and is consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). It does not alter the NCP expectations 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 must attain or waive applicable or relevant and appropriate requirements (ARARs). CERCLA remedial actions for contaminated ground water at radiation sites must attain (or waive as appropriate) the Maximum Contaminant Levels (MCLs) or non-zero Maximum Contaminant Level Goals (MCLGs) established under the Safe Drinking Water Act, where the MCLs or MCLGs are relevant and appropriate for the site.

This electronic calculator provides guidance to U.S. Environmental Protection Agency (EPA) staff on how to establish risk-based BPRGs. It also provides guidance to the public and to the regulated community on how EPA intends that the NCP be implemented. The guidance is designed to describe EPA's national policy on these issues. 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 community, and may not apply to a particular situation based upon the circumstances. EPA may change this guidance in the future, as appropriate.



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walls, floors, and ceilings within buildings that will be occupied for residential or commercial/industrial land use.

Initially used at the scoping phase of a project using readily available information, risk-based BPRGs generally are modified based on site-specific data gathered during the RI/FS study. BPRG development and screening should assist staff in streamlining the consideration of remedial alternatives. Radionuclide-specific BPRGs 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 include concentration limits set by other environmental regulations, such as Safe Drinking Water Act maximum contaminant levels (MCLs). The second source for BPRGs, and the focus of this database tool, is risk-based calculations that set concentration limits using toxicity values under specific exposure conditions.

BACKGROUND

The U.S. Environmental Protection Agency (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 guidance 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. 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. 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.) The guidance also provides a listing of radiation standards that are likely to be used as ARARs to establish cleanup levels for remedial actions.

This BPRG 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, except to account for the technical differences between radionuclides and chemicals. This effort is intended to facilitate compliance with the NCP at radioactively contaminated sites while incorporating the improvements to the Superfund program that have been implemented through Administrative Reforms.

A draft version of the BPRG calculator underwent external peer review in 2006. Comments received during that peer review have been addressed and revisions made to the calculator as appropriate.

IMPLEMENTATION

For questions regarding radiation site policy and guidance for CERCLA remedial actions, readers are referred to the Superfund and EPCRA call center at 1-800-424-9346 or 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 or by telephone at (703) 603-8748.

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