



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
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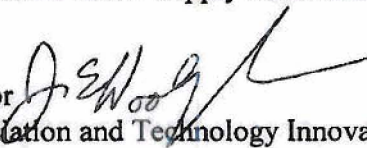
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OFFICE OF  
SOLID WASTE AND  
EMERGENCY RESPONSE

OSWER Directive # 9355.3-22

**MEMORANDUM**

**SUBJECT:** Update on Providing Alternative Water Supply as Part of Superfund Response Actions

**FROM:** James E. Woolford, Director   
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**TO:** Superfund National Policy Managers, Regions 1 - 10

**Overview**

The purpose of this memorandum is to update the existing Office of Solid Waste and Emergency Response (OSWER) guidance titled, *Guidance Document For Providing Alternate<sup>1</sup> Water Supplies*, February 1988, OSWER Directive 9355.3-03, on providing an alternative supply of drinking water as part of a removal or remedial action conducted under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended in 1986.

Specifically, this memorandum modifies the existing 1988 Guidance by no longer recommending the use of two types of alternative water supply options described in that Guidance, namely, oversized community storage facilities to compensate for loss of existing system capacity in emergency demand situations and blending of new and existing water supplies to achieve acceptable levels. This memorandum does reaffirm, however, the six recommended ways that alternative water supplies can be provided for remedial actions; those alternatives are described in the National Oil and Hazardous

<sup>1</sup> For purposes of this memorandum, the word "alternative" is used instead of "alternate" because alternative is the term used in CERCLA and the NCP.

Substances Pollution Contingency Plan (NCP). This guidance also reaffirms existing interpretations of the NCP<sup>2</sup> for removal actions.

This memorandum also provides a summary of the number of remedial and removal actions that included alternative water supplies and the number of people protected by those alternative water supplies. This information is provided to enhance the understanding by the public, state regulators and others on EPA's clean up decisions related to groundwater and thereby to further the purposes of the recent Presidential memoranda on "Transparency and Open Government"<sup>3</sup> and "Scientific Integrity"<sup>4</sup>.

Alternative water supplies are included in response actions for both Federal facilities and non-federal sites. In working with other Federal agencies to make alternative water supply decisions at sites where the other Federal agency is the lead for cleanup, EPA Regions should use the principles highlighted in this document to the same extent as at non-federal sites.<sup>5</sup> Section 120(a)(2) of CERCLA provides as follows:

(2) Application of requirements to federal facilities. --- All guidelines, rules, regulations, and criteria which are applicable to preliminary assessments carried out under this Act for facilities at which hazardous substances are located, applicable to evaluations of such facilities under the National Contingency Plan,

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<sup>2</sup> This memorandum provides guidance to Regional staff regarding how the Agency intends to interpret and implement the NCP, which provides the blueprint for CERCLA implementation. However, this document does not substitute for those 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. Any decisions regarding a particular situation will be made based on the statutes and regulations, and EPA decision-makers retain the discretion to adopt approaches on a case-by-case basis that differ from this guidance where appropriate.

<sup>3</sup> See 74 FR 4685-4686 (January 26, 2009 Memoranda from President Obama to the Heads of Executive Departments and Agencies "Transparency and Open Government" (signed January 21, 2009). For example: *Government should be transparent. Transparency promotes accountability and provides information for citizens about what their Government is doing. Information maintained by the Federal Government is a national asset. My Administration will take appropriate action, consistent with the laws and policy, to disclose information rapidly in forms that the public can readily find and use. See also the memorandum from EPA Administrator Lisa Jackson to EPA Employees, dated April 23, 2009 titled, "Transparency in EPA's Operations."*

<sup>4</sup> See 74FR 18596-18597 (April 23, 2009 Memoranda from President Obama to the Heads of Executive Departments and Agencies "Scientific Integrity" (signed March 9, 2009). *This memorandum underscores that the "public must be able to trust the science and scientific process informing public policy decisions." See also the memorandum from EPA Administrator Lisa Jackson to EPA Employees, dated May 9, 2009, titled, "Scientific Integrity: Our Compass for Environmental Protection."*

<sup>5</sup> CERCLA Section 120(e)(4)(A) provides a role for EPA in the selection of remedies at Federal facilities on the National Priority List.

applicable to inclusion on the National Priority List, or applicable to remedial actions at such facilities shall also be applicable to facilities which are owned or operated by a department, agency, or instrumentality of the United States in the same manner and to the extent as such guidelines, rules, regulations, and criteria are applicable to other facilities. No department, agency, or instrumentality of the United States may adopt or utilize any such guidelines, rules, regulations, or criteria which are inconsistent with the guidelines, rules, regulations, or criteria established by the Administrator under this Act.

## **Background**

### *Prior Guidance*

In February 1988, EPA issued “*Guidance Document for Providing Alternate Water Supplies*”, EPA/540/G-87/006, OSWER Directive 9355.3-03. This 1988 document provides guidance on whether an alternative water supply is needed and how to select an alternative water supply as part of a remedial or non-time critical removal action. It also lists several types of alternative water supplies, two of which are no longer recommended in this memorandum.

Although the 1988 guidance was not written to apply to emergency or time critical removals, EPA On-Scene Coordinators have found parts of it useful when selecting an alternative water supply during such removal actions. For time critical and emergency removal actions, EPA’s key resource for deciding whether to provide an alternative drinking water supply under Superfund removal authority has been the Removal Action Levels (RALs), in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.1-02, Final Guidance on Numeric Removal Action Levels for Contaminated Drinking Water Sites (October 1993). EPA issued updates to the RAL list between 1993 and 1998. The last published update to the RAL tables was provided in 1998 in the memorandum, “Numeric Removal Action Levels for Contaminated Drinking Water Sites,” OSWER Directive 9360.1-02B-P (November 1998). For information on removal actions and groundwater, see [http://www.epa.gov/superfund/health/conmedia/gwdocs/rem\\_act.htm](http://www.epa.gov/superfund/health/conmedia/gwdocs/rem_act.htm).

### *Alternative Water Supply Language in CERCLA and the NCP*

Under CERCLA and the NCP, an alternative supply of drinking water can be provided either as a removal action or as a remedial action. The provision of an alternative water supply can be a stand-alone removal action or an integral part of a more comprehensive response action. Removal actions that provide a temporary alternative water supply (e.g., bottled water or filters) at non-NPL sites should be coordinated with future permanent actions to be taken by others (e.g., state or local government or a Potentially Responsible Party (PRP)). When implemented as part of a larger response action, the provision of an alternative water supply often exemplifies how the program

addresses immediate risks to residents who live in the vicinity of Superfund NPL sites and who use groundwater as their source of drinking water. Providing an alternative water supply does not affect NCP provisions or EPA policy regarding remedial actions for restoration of groundwater to beneficial use nor the use of maximum contaminant levels (MCLs) to trigger remedial action and to determine cleanup levels.

In CERCLA, section 101 (34) states that “[t]he term ‘alternative water supplies’ includes, but is not limited to, drinking water and household water supplies.” Also, CERCLA section 118 states that in taking response actions, the President [EPA] shall “give a high priority to facilities where the release of hazardous substances or pollutants or contaminants has resulted in the closing of drinking water wells or has contaminated a principal drinking water supply.” In addition, the NCP discusses the provision of an alternative water supply as part of CERCLA removal and remedial actions. Specifically, section 300.415(d)(9) describes a situation where it is generally considered appropriate to take a removal action for provision of alternative water supply. For remedial actions, Appendix D to Part 300 addresses appropriate actions and methods of remedying releases and lists several ways that alternative water supplies can be provided. Consistent with the statute and NCP, providing an alternative water supply continues to be a high priority for the Agency during the selection and implementation of a Superfund response action.

#### *Superfund Environmental Indicators and Alternative Water Supply Response Actions*

Providing an alternative supply of water to affected users generally is designed to prevent residents from being exposed to contaminated groundwater. Often, an alternative supply of water is one of the most effective methods to protect human health under CERCLA and to control unacceptable human exposures (for purposes of GPRA). The Superfund NPL program has established “human exposure under control” as one of its current Environmental Indicators (EIs).<sup>6</sup>

In FY 1992, EPA developed three program-based EIs, which have been used and continue to be used to communicate environmental progress towards cleaning up Superfund sites. One of the three original EIs was called Populations Protected, which measured the progress made in protecting individuals living at or near Superfund sites from immediate threats of exposure to contaminated water through the provision of an alternative water supply.<sup>7</sup> At that time, the Population Protected measure was reported on

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<sup>6</sup> The 1993 Government Performance and Results Act (GPRA), holds federal agencies accountable for using resources wisely and achieving program results. Superfund EIs, which satisfy GPRA, are measures of program performance used to communicate tangible progress made in protecting human health and the environment through site cleanup activities. For more information on Superfund EIs, go to <http://www.epa.gov/superfund/accomp/ei/ei.htm>.

<sup>7</sup> The Populations Protected EI actually included all of the following items: the number of people protected from immediate and long-term threats through the provision of alternative water supplies; relocation of the affected population; and the implementation of site security and

an action level, not on a site-specific basis.<sup>8</sup> Therefore, multiple actions at a site could represent a similar set of people protected.

### *Summary of Application of Alternative Water Supplies at Superfund Sites*

In 2007, the Office of Superfund Remediation and Technology Innovation (OSRTI) conducted an updated analysis of the Agency's alternative water supply response actions to determine the frequency of use and potential impact (e.g., number of residents where human exposure was brought under control for the drinking water pathway). This analysis included reviewing CERCLA remedial and removal actions conducted at NPL and non-NPL sites reported in the CERCLIS system. Some of the key findings of this analysis included:

- Alternative water supply has been provided at approximately 345 sites as part of approximately 503 response actions.

Approximately 298 response actions have supplied drinking water permanently. Approximately 205 response actions have supplied drinking water temporarily.

- An alternative supply of drinking water has been provided to over 2.1 million residents.

Approximately 770,000 people have been supplied drinking water permanently. Approximately 1.4 million people have been supplied drinking water temporarily.

### **Recommendations**

This memorandum does not affect or replace statutory or regulatory requirements on the use of alternative water supplies. This memorandum does update the recommended types of alternative water supply approaches that the regions should consider for implementation in the Superfund NPL program, and tracks the use of alternate water supply actions nationally. The guidance provided in this memorandum is consistent with EPA's interpretation of the NCP on the use of alternative water supplies.

Providing an alternative water supply may involve furnishing clean, drinkable water on a permanent or temporary basis. For example, providing a permanent supply of

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institutional controls. CERCLIS tracking of Populations Protected, however, reports only the provision of alternative water supplies. The other items listed above are tracked elsewhere in CERCLIS.

<sup>8</sup> See OSRTI's "Superfund Environmental Indicators Guidance Human Exposure Revisions", March 2008 at [http://www.epa.gov/superfund/accomp/ei/pdfs/final\\_ei\\_guidance\\_march\\_2008.pdf](http://www.epa.gov/superfund/accomp/ei/pdfs/final_ei_guidance_march_2008.pdf). For example, EI action level reporting for an NPL site may include: EPA removal actions; PRP removal actions; Federal facility removal actions; EPA remedial actions; PRP remedial actions; Federal facility remedial actions; and Initial Remedial Measures.

drinking water may include installing a private well, connecting to a municipal water system, drilling of a new community water supply well, or reinstating a previously contaminated water supply well once the groundwater has been cleaned up. Examples of providing a temporary supply of water may involve installing individual treatment units or delivering bottled water. When a CERCLA response action that provides an alternative water supply involves connecting hundreds of homes to a municipal system (i.e., a residential connection to a water purveyor), it generally means that we connect residents to a water supply line that is located relatively close by (e.g., ranging from a few feet to several hundred feet away).

### *Remedial and Non-Time Critical Removals*

The 1988 Guidance document lists several types of alternative water supply actions recommended for use as part of remedial actions. As a policy matter, the following two types of actions – oversized community storage facilities to compensate for loss of existing system capacity in emergency demand situations and blending of new and existing water supplies to achieve acceptable levels – originally included in the 1988 Guidance are no longer recommended.

With regard to the first type of action (i.e., construction of oversized community storage facilities), we believe this approach is not properly considered a measure to “restore” contaminated groundwater, as discussed in the NCP (see CFR §300.435(f)(3)). Based on our experience at various sites, the second type of action (i.e., mixing, blending, and dilution of contaminated and uncontaminated groundwater in order to achieve remedial goals) would result in a larger volume of contaminated groundwater with lesser concentrations of contaminants; we do not believe this approach is consistent with the intent of CERCLA (e.g., section 121(b)(1)).

Regions should continue to consider the six ways of providing alternative water supplies listed in the NCP, Appendix D to Part 300:

“[f] Alternative water supplies can be provided in several ways, including the following:

- i) Individual treatment units;
- ii) Water distribution systems;
- iii) New wells in a new location or deeper wells;
- iv) Cisterns;
- v) Bottled or treated water; and
- vi) Upgraded treatment for existing distribution systems.”

If an alternative water supply will create a new public water system or expand an existing system, as defined by the Federal Safe Drinking Water Act, regional Superfund staff should coordinate with the Regional EPA Drinking Water program to ensure the owners and operators of water systems are aware of requirements under federal, state, and local

laws.<sup>9</sup>

### *Time Critical and Emergency Removal Actions*

The Superfund removal program recommends the continuation of the alternative water supply selection process for removal actions as described in both the 1988 and RAL guidance documents. The most recent list of RALs was finalized in 2008.

### *Tracking Use of Alternative Water Supply Actions*

The Superfund program currently uses CERCLIS to track the use of alternative water supply actions. The CERCLIS database records these applications at both remedial and removal actions in the data field titled, "Populations Protected" and will continue to do so in the future. Regions are encouraged to populate and update the number of people protected as appropriate.

### **Implementation**

The Superfund NPL program places a high priority on bringing human exposure under control (HEUC). Regions should consider providing an alternative supply of drinking water as a portion of the groundwater strategy for any site where the situation warrants such a CERCLA response. The Superfund removal program can provide alternative drinking water supplies at NPL and non-NPL sites in light of the RAL guidance. The NCP describes various approaches for the Superfund remedial program to provide alternative water supplies. The decision to provide an alternative water supply needs to be documented in the appropriate decision document, such as a Record of Decision (ROD) or Explanation of Significant Differences (ESD) for remedial projects or an Action Memorandum for removal projects.

The Superfund program remains committed to restoring groundwater to beneficial use at NPL sites consistent with CERCLA and the NCP, and bringing human exposures under control. Providing an alternative water supply in a timely manner can support the goal of bringing human exposures under control at NPL sites and complement the groundwater component of the remedy.

Copies of this document are available on our web site <http://www.epa.gov/superfund/health/conmedia/gwdocs/aws.htm>. For further information on alternative water supplies for CERCLA remedial actions, please contact Matt Charsky at [charsky.matthew@epa.gov](mailto:charsky.matthew@epa.gov) or (703) 603-8777. For further information on CERCLA removal actions, please contact Gilberto "Tito" Irizarry at [irizarry.gilberto@epa.gov](mailto:irizarry.gilberto@epa.gov) or (202) 564-7982. For Federal facilities information, please

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<sup>9</sup> For example, under federal regulations, there are restrictions on the use of bottled water as an alternative water supply when citizens are supplied by public water systems. See 40 CFR 141.101.

contact your Federal Facilities Restoration and Reuse Office (FFRRO) regional coordinator.

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