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A Citizen's Guide to Understanding Presumptive Remedies

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Cleaning up abandoned hazardous waste sites has been the charge of EPA's Superfund program since 1980. Over the past 17 years, Superfund has gained considerable experience on hazardous waste cleanup approaches and technologies. As we gained experience, we found that certain sites have similar characteristics that we could use to our advantage to improve the cleanup process. The "presumptive remedy" initiative is one of the results. Essentially, we said: "Here's a site similar in all key ways to many other sites we've cleaned up. Wouldn't it make sense to use that cleanup approach here, too?"

Presumptive remedies benefit both Superfund and you—the community members affected by a Superfund site. Keep reading to find the answers to questions you may have about presumptive remedies, how they work, and why we use them.

Q A 1. What are presumptive remedies?

As Superfund worked through hundreds of cleanups, we discovered similarities. Certain types of sites, like wood treater sites, have similar chemical contaminants. Other sites, like municipal landfills, share similar characteristics. At similar sites, standard remedies (called "presumptive") can be applied. Presumptive remedies are based on historical patterns of remedy selection and our scientific and engineering evaluation of how well cleanup technologies perform. EPA now expects presumptive remedies to be considered at all applicable sites. And they should—those applicable sites make up more than 60% of sites on the National Priorities List!

Q A 2. Why use presumptive remedies?

Presumptive remedies have helped us streamline the cleanup process. This approach has led to many advantages, for you and for Superfund. When we first investigate a site, we try to decide whether it is a candidate for a presumptive remedy. If it is, then we can narrow down the cleanup choices. This could save us a lot of time in site investigation and data collection efforts. More importantly, it means that we spend less time in your community, so there are fewer disruptions. And, since the presumptive remedies have been successfully implemented at other sites, you can be confident that it will fully protect your health and your community's environment.

One of the most important advantages is that, the sooner your community knows the remedy, the sooner you can plan for how you may want to use the site once it's cleaned up. We can work with your local land planning group to help determine how the community would like to use the cleaned up site. Finally, some sites that have used presumptive remedies have shown significant time and cost savings. The more time and money we save at a site, the more resources we have available to clean up other sites.

Q A 3. What are the different types of presumptive remedies?

Presumptive remedies have been developed for four kinds of sites: municipal landfills, volatile organic chemicals (VOCs) in soils, wood treater sites, and contaminated ground water. Presumptive remedies can be grouped by the type of cleanup plan: containment, treatment, and response strategy. "Containment" holds the waste and prevents the spread of contaminants. "Treatment" uses a single technology or group of technologies to get rid of the contaminants. A "response strategy" is a long-term approach with several steps and options to decide among treatment and containment options for different sections of a site.

4. What is the presumptive remedy for municipal landfills?

A The presumptive remedy for municipal landfills is containment, which can include some or all of the following components, as appropriate, on a site-specific basis: landfill cap, to minimize infiltration of rain water through the buried waste and to ground water below; leachate collection and treatment; source area ground water control to contain plume; landfill gas collection and/or treatment; and institutional controls to ensure that the integrity of the landfill cap is preserved.

5. What is the presumptive remedy for a site with VOCs in the soils?

A We have three presumptive remedy technologies to treat a site with soils contaminated with VOCs. The preferred remedy is *soil vapor extraction*. With this method, we can leave the soil in place and remove contaminants with a process that forces air through the soil. The other choices are *thermal desorption* and *incineration*. Both of these technologies require us to excavate the soil and treat it with a process using heat. Once the soil is treated, cleaned, and tested, we can return it to the site.

6. What is the presumptive remedy for a wood treater site?

A The presumptive remedy for a wood treater site depends on the types of contaminants located at the site. If the contaminants are organic, we use *bioremediation*, *thermal desorption*, or *incineration*. If they are inorganic, we use *immobilization*. Bioremediation is a natural process that uses microorganisms, such as bacteria, fungi, or yeast, that "eat" harmful contaminants and transform them into nonhazardous products. Thermal desorption and incineration are the same technologies described above to treat VOCs in soils. Immobilization does not treat the contaminants, but rather prevents them from spreading. This process mixes the hazardous substances with chemicals and cement-like materials to bind them and makes them immobile and inactive.

7. What is the presumptive remedy for a site with contaminated ground water?

A We use a response strategy to address sites with contaminated ground water. This means we take a phased approach to characterize and clean the site. Information from each sequence of steps, or phase, helps us to improve future investigations or actions. Basically, this presumptive remedy helps us with the *process* of selecting a remedy rather than choosing a particular remedy.

8. Couldn't this "cookie cutter" approach overlook special problems at my site?

A No. Presumptive remedies are meant to improve the remedy selection process, not undermine it. Our site investigation professionals use their expertise to examine every site carefully. EPA is committed to the best and the safest cleanup for every community. And Superfund understands your community's need to find a unique solution to your unique problems. You can rest assured that when a full-length investigation of the remedy alternatives is considered necessary, we will do it.

9. Can the community ask EPA to consider other cleanup alternatives?

A Your voice will be heard! Communities are full partners in the remedy selection process. If residents request it, we will consider investigating other cleanup approaches even if a presumptive remedy exists, or give you a full explanation of why the presumptive remedy was selected. We will assess each suggested alternative on its own merits, and may proceed with further studies.

Presumptive remedies still add value even if we include other approaches. Presumptive remedies provide a baseline for protecting human health and the environment; if we consider other specific cleanup alternatives, they add additional layers of protection.

For more information about each presumptive remedy, see the box titled "For Further Reading."

For Further Reading

The following documents are available at:

National Technical Information Service (NTIS)
(703) 487-4650 (800) 553-NTIS (*rush service only*)

- VOCs in Soil, EPA 540F-93-048/PB93-963346
- Municipal Landfills, EPA 540-F-93-035/PB93-963339
- Wood Treater Sites, EPA 540/R-95/128 PB-963410
- Ground Water Strategy, EPA 540/R-96/023 PB96-963508