



# Identifying Superfund Sites

## National Priorities List (NPL) and Hazard Ranking System (HRS)

The National Priorities List (NPL) and the Hazard Ranking System (HRS) are key elements in the U.S. Environmental Protection Agency's Superfund program. The NPL is EPA's list of uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under Superfund. The HRS is the chief method EPA uses to rank the potential risks posed by different sites. The 1986 law reauthorizing Superfund requires EPA to revise the HRS and propose the revisions in the Federal Register. The public may comment on the revisions for 60 days after EPA proposes them. The revised HRS must be operational by October, 1988.

### How Does Superfund Work?

The first step in the Superfund process is to identify abandoned or uncontrolled hazardous waste sites and take any immediate action necessary under its Removal Program. EPA identifies these sites through a variety of methods, including reviewing records and information provided by States, handlers of hazardous substances and concerned citizens. Information on sites is incorporated into the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS), a national computerized data base that contains information on potential hazardous waste sites as well as information on Superfund removal, remedial, and enforcement activities. Currently, CERCLIS contains information on over 27,000 sites; approximately 1,000 are on or proposed for the NPL.

Congress enacted the Comprehensive Environmental Response Compensation, and Liability Act (CERCLA), commonly known as Superfund, in 1980. This law created a tax on the chemical and petroleum industries and provided a broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or welfare or the environment. Over 5 years, \$1.6 billion were collected and the tax went to a Trust Fund for cleaning up abandoned or uncontrolled hazardous waste sites. The U.S. Environmental Protection Agency (EPA) is responsible for running the Superfund program. On October 17,

1986, the Superfund Amendments and Reauthorization Act (SARA) was signed into law. SARA increases the Trust Fund to \$8.5 billion over 5 years and strengthens EPA's authority to conduct cleanup and enforcement activities.

Under the Superfund program, EPA can

- Pay for the cleanup of hazardous waste sites when those responsible for such sites cannot be found or are unwilling or unable to clean up a site.
- Take legal action to force those responsible for hazardous waste sites that threaten public health or the environment to clean up those sites or pay back the Federal

government for the costs of cleanup.

The law authorizes two kinds of response actions:

- Short-term *removals* where actions may be taken to address releases or threats of releases requiring prompt response.
  - Longer-term *remedial responses* that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious but not immediately life threatening. They can be conducted only at sites on EPA's National Priorities List (NPL).
- Remedial and removal responses include, but are not limited to:

- Destroying, detoxifying or immobilizing the hazardous substances on the site through incineration or other treatment technologies.
- Containing the substances on-site so that they can safely remain there and present no further threat.
- Removing the materials from the site to an EPA-approved, licensed hazardous waste facility for treatment, containment, or destruction.
- Identifying and restoring contaminated ground water, halting further spread of the contaminants, or in some circumstances providing an alternate source of drinking water.

Next, EPA or the State conducts a preliminary assessment to decide if the site may pose a potential hazard. The new Superfund law allows citizens to petition EPA to conduct a preliminary assessment. EPA plans to propose regulations describing the process of petitioning.

If a preliminary assessment shows that the site does not present a potential hazard, no further action may be taken. If the preliminary assessment shows that a contamination problem exists, EPA will perform a more extensive study called the site inspection. The new Superfund law set these goals:

- By January 1988, complete preliminary assessments at all sites in CERCLIS.
- By January 1989, complete site inspections for all sites deemed necessary.

#### What Is the Purpose of the NPL?

The NPL serves to notify the public of sites that EPA decides may represent a long-term threat to public health or the environment and so may need remedial action. A site must be on the NPL to undergo remedial action financed by the Trust Fund. Remedial action may involve activities such as containment, treatment, and disposal of wastes that will bring site conditions to the point that human health and the environment are protected. The NPL is one tool EPA uses to help set priorities for cleanup of Superfund remedial sites.

#### How Do Sites Get on the NPL?

To be on the NPL, a site must have an HRS score of 28.50 or more, the State must have chosen the site as its top priority site, or it must meet all three of the following criteria:

- the U.S. Department of Health and Human Services has issued a health advisory recommending that people be removed from the site to avoid exposure
- EPA determines that the site represents a significant threat
- EPA determines that remedial action is more cost-effective than removal action.

EPA publishes a proposed rule in the Federal Register listing sites it is proposing to add to the NPL. Typically, a 60day public comment period follows this publication. During this period, the public can review information about the proposed sites and let EPA know if it agrees or disagrees with the HRS score and any other information used to propose the site. After considering the relevant comments received, EPA publishes a final rule in the Federal Register adding all proposed sites that still meet the conditions for listing.

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### What Is the HRS?

The Hazard Ranking System is a scoring system that evaluates the potential relative risks to human health and the environment posed by different sites. It does not determine if cleanup is possible or worthwhile, or the amount of cleanup needed. Rather, it allows EPA to compare the potential risks presented by different sites. The HRS is intended as a screening mechanism for sites to determine which ones may need additional comprehensive study.

### How Does the HRS Work?

Preliminary assessments, site inspections and other information are used to develop three HRS scores.

- The first score measures the possibility of harm to humans or the environment from hazardous substances leaving the site through ground water, surface water, or air. Only this score is used to place sites on the NPL.
- The second measures the possibility of harm to people coming in direct contact with hazardous substances.
- The third measures the possibility of harm from hazardous substances that can cause fires or explosions.

The first score is used to place sites on the NPL and is generally called "the HRS score." The second and third scores can be used to identify sites that need removal actions. The new Superfund law requires EPA to revise the HRS by October 1988.

### Why Are Sites on the NPL Presented in Groups of 50?

EPA considers sites within each group of 50 to have approximately the same priority for cleanup.

### Why Did EPA Select 28.50 As the Cutoff Score?

EPA first selected 28.50 as the cutoff HRS score because it produced an NPL of at least 400 sites, the minimum set by the Superfund law. The law set no upper limit on the size of the NPL. To be consistent, EPA has continued to add sites with scores of 28.50 or above. The cutoff was selected to meet legal requirements and does not reflect a decision that sites scoring below the cutoff do not present some risk.

### How Often Are Sites Added to the NPL?

The NPL must be updated at least once a year. EPA usually updates the NPL more frequently.

If a Site Is on the NPL, Will EPA Pay for Response Actions?

Not necessarily. EPA will study the nature and extent of the problems at an NPL site before determining if it requires remedial action. Whenever possible, EPA attempts to have those responsible take remedial action. Superfund will pay only when those responsible cannot or will not pay to clean up.

Can EPA Begin Taking Action at Sites on the Proposed NPL?

Yes. EPA may start the Remedial Investigation/Feasibility Study (RI/FS), which describes the type and extent of contamination at the site, identifies alternatives for remedial action, and supports technical and cost analyses of the alternatives. However, the remedy selected cannot be constructed or implemented until the site is on the final NPL. In addition, removals also can be undertaken before a site is on the final NPL.

How Does EPA Determine Funding Priorities Among NPL Sites?

In large part, EPA uses the NPL to determine high-priority sites for cleanup. However, funding of actions will not always take place in the order that sites are on the NPL. Numerous factors such as State priorities, cost, and available cleanup technologies influence the order for funding actions.

Will Sites on the Final NPL Keep Their Priority for Response Action After New Sites Are Added?

Not necessarily. Once new sites are placed on the final NPL, the priority for starting work on sites already on the NPL may change. However, EPA will continue funding the cleanup of sites where it or the State has already begun to take action.

How Long Do Remedial Actions Take?

The time required for remedial action depends on the site. Actions can involve many steps, including a Remedial Investigation/ Feasibility Study (RI/FS), and design and construction or implementation of the remedy selected. In a few cases, the only action necessary may be to remove drums of hazardous substances or empty storage tanks --actions that take little time. In most cases, a response action may involve different and more expensive measures -- for example, cleaning polluted ground water or dredging contaminated river bottoms. In these cases, it can take several years of complex engineering analysis and design work before the actual construction can begin. The new Superfund law establishes schedules for completing RI/FSSs, remedial designs and remedial constructions.