



## GLOSSARY OF REGULATORY AND TECHNICAL TERMS

This Glossary defines terms often used when describing activities conducted under the Superfund program, more formally known as the Comprehensive Response, Compensation and Liability Act (CERCLA) of 1980, as amended by the Superfund Reauthorization and Compensation Act (SARA) of 1986.

The definitions apply specifically to the Superfund program and may have other meanings when used in different circumstances. These terms are used during the Superfund investigations at the Crab Orchard National Wildlife Refuge (Refuge) in Marion, Illinois.

**Administrative Record File (ARF)** - A file that is maintained, and contains all information used, by the lead agency to make its decision on the selection of a response action under CERCLA. It usually is housed in a location at or near the Superfund site and the USEPA Regional office.

**Air Pollution Control Devices** - Mechanisms or equipment which "clean" emissions generated by an incinerator. These devices remove pollutants (particulate matter, acid gases, such as dioxins) that would otherwise be released into the atmosphere.

**Applicable or Relevant and Appropriate Requirements (ARARs)** - Those cleanup standards and other environmental goals or limitations which address a hazardous substance, pollutant, contaminant, remedial action, location or other circumstance at a Superfund Site.

**Aquifer** - An underground geologic formation composed of materials such as sand, soil or gravel that can store and supply groundwater to wells and springs.

**Automatic Waste Feed Shut-off System** - A device that automatically stops the feeding of waste to an incinerator when it is not operating according to conditions specified in the facility's permit.

**Clean Water Act** - A Federal law to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.

**Cleanup** - Actions taken to remove, treat or monitor a release or threatened release of hazardous substances that could affect public health or the environment. The term is often used to describe actions or phases in an environmental cleanup program.

**Closure Plan** - Documentation prepared to guide the cleanup, stabilization, and continued surveillance of a waste management facility under RCRA.

**Combustion** - The controlled burning of wastes. During combustion, heat is used to chemically alter the organic compounds in the waste. Combustion converts most of the organic compounds into stable inorganic compounds, such as carbon dioxide and water.

**Comment Period** - A time period during which the public can review and comment on various documents and EPA actions.

**Compatibility Determination** - USFWS process to ensure that enough is done to protect our nation's wildlife resources and the mission of each specific Refuge, as mandated by the National Wildlife Refuge System Administration Act of 1966.

**Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)** - A federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act. It created a special tax on chemical manufacturers that goes into a trust fund, commonly known as Superfund,



which is used by the government to investigate and clean up abandoned or uncontrolled hazardous waste sites. It can also require private parties to conduct the investigation and cleanup.

**Community Relations (CR)** - EPA's program to encourage the public to participate in the Superfund process, respond to community concerns and provide public information.

**Consent Decree** - A legal document approved and issued by a federal judge that formalizes an agreement between the U.S. EPA and potentially responsible parties (PRPs) where PRPs will perform all or part of a Superfund site cleanup.

**Contamination** - The presence of foreign materials or chemicals in soils, sediment, water, or the air in significant concentrations.

**CONWR** - Crab Orchard National Wildlife Refuge in Marion, Illinois. It is sometimes known as ORDILL, an area established during WWII for munitions manufacturing. It is now managed as a Refuge for the USFWS.

**Destruction and Removal Efficiency (DRE)** - A percentage that represents the number of molecules of a compound removed or destroyed in an incinerator relative to the number of molecules of the compound which entered the incinerator system.

**Dioxins** - A group of highly toxic organic compounds for which RCRA regulations set more stringent destruction and removal efficiencies (99.9999) than the Destruction Removal Efficiency value required for most other organic compounds.

**Feasibility Study** - The phase of a Superfund study that reviews data from the Remedial Investigation, develops and screens appropriate cleanup alternatives and evaluates the most appropriate alternatives to ensure compliance with Federal and State laws.

**Federal Facility Agreement (FFA)** - A written understanding between government agencies which establishes framework, roles, responsibilities and schedules for a Superfund study on Federal property. The FFA is signed by USEPA, USFWS, Department of the Army, and IEPA which sets forth a process for managing the CONWR Superfund Site.

**Groundwater** - Water beneath the earth's surface that fills pores between materials such as sand, soil, or gravel.

**Hazardous Waste** - A liquid, solid, or gaseous waste or combination of wastes, that because of physical, chemical, or infectious characteristics, may cause or pose a substantial hazard to human health or the environment when improperly treated, stored, transported, disposed, or otherwise managed.

**Hazard Ranking System (HRS)** - A scoring system used to evaluate potential relative risks to public health and the environment from releases or threatened releases of hazardous substances. The USEPA and some states use the HRS to calculate a site score (0 to 100) based on the actual or potential release of hazardous substances from a site through air, surface water or groundwater. This score is the primary factor used to decide if a hazardous waste site should be placed on the NPL.

**Health and Safety Plan** - This document is site-specific providing the guidelines and procedures to prevent and manage health or safety hazards at a waste site.

**Heavy Metals** - Metallic elements with high atomic weights, e.g., mercury, chromium, cadmium, arsenic and lead.

**IEPA** - Illinois Environmental Protection Agency, the state regulatory environmental agency.

**Incinerator** - A furnace for burning wastes under controlled conditions.

**Illinois Ordnance Plant (IOP)** - A contractor operated ordnance facility functioning during WWII for the War Department.

**Information Repository (IR)** - A public information file containing current information, technical reports, reference documents and Technical Assistance Grant information about a Superfund site. The information repository is usually located in a public building that is convenient for local residents.

**Inorganic Compounds** - Compounds that either do not contain carbon or do not contain hydrogen along with carbon. Inorganic compounds include

metals, salts, and various carbon oxides. These compounds do not combust in incinerators, although incinerators may generate inorganic compounds.

**In Situ Vitrification** - A thermal treatment process in which electrical energy is used to melt contaminated solids in place.

**Landfill** - Secure chemical landfills are disposal sites for hazardous waste. They are selected and designed to minimize the chance of release of hazardous substances into the environment.

**Land Disposal Restrictions** - Restrictions placed on hazardous waste so that they must be treated by an approved method, or below a set concentration level before it can be landfilled.

**Leachate** - A liquid that has percolated through soil, rock or waste and has extracted dissolved or suspended materials: materials removed by the process of leaching.

**Leaching** - The process of removing soluble components from a substance as a liquid moves through it.

**Liner** - A relatively impermeable barrier designed to prevent leachate from leaking from a landfill.

**Maximum Contaminant Limit (MCL)** - The maximum permissible level of a contaminant in water delivered to any user of a public water system. MCLs are enforceable standards.

**Mobile Incinerator Systems** - Hazardous waste incinerators that can be transported from one site to another to treat hazardous wastes.

**Monitoring Wells** - Special wells drilled at specific locations on or off a hazardous waste or CERCLA site where groundwater can be sampled at selected depths and studied to determine the direction of groundwater flow and the types and amounts of contaminants present.

**National Oil and Hazardous Substances Contingency Plan (NCP)** - The federal regulation that guides determination of the sites to be corrected under the Superfund program and the program to prevent or control spills into surface waters or other portions of the environment.

**National Priorities List (NPL)** - The USEPA's list of the most contaminated areas in the US possibly requiring long-term remedial response under Superfund. The list is based primarily on the score a site receives on the HRS. The list is updated annually for additions and deletions.

**National Response Center** - The federal operations center that receives notifications of all releases of oil and hazardous substances into the environment.

**National Response Team** - Representatives of 13 federal agencies that, as a team, coordinate federal responses to nationally significant incidents of pollution and provide advice and technical assistance to the responding agency(ies) before and during a response action.

**National Wildlife Refuge System Administration Act of 1966** - Federal Law 16 USC 668dd-668ee.

**Natural Resource Damage Assessment - Operable Unit** - An evaluation or appraisal of degradation of natural resources due to pollution.

**Operation and Maintenance** - Activities conducted at a site after a Superfund site action is completed to ensure that the action is effective and operating properly.

**Organic Compound** - Compounds that contain carbon, hydrogen, and often oxygen. Organic compounds are combustible and can therefore be destroyed in an incinerator.

**Particulate Matter** - Fine liquid or solid particles such as dust, smoke, mist, fumes or smog, found in air or emissions.

**Parts Per Billion (ppb)** - Units commonly used to express low concentrations, 1 ppb is equal to 1 drop of water in a 21,700 gallons - enough to fill a swimming pool 20 x 30 feet, five feet deep.

**Parts Per Million (ppm)** - Units commonly used to express low concentrations, 1 ppm is equal to 1 drop of water in a 21.7 gallon pail.

**Parts Per Trillion (ppt)** - Units commonly used to express low concentrations, 1 ppt is equal to 1 drop of water in a 21,700,000 gallons - enough to fill 1,000

swimming pools.

**Plume** - A visible or measurable discharge of a contaminant from a given point of origin; can be visible or thermal in water, or visible in the air as, e.g., a plume of smoke.

**Polychlorinated biphenyls (PCBs)** - PCBs are industrial compounds that were manufactured worldwide between 1929 and 1977 and were used primarily as fire retardants.

**Potentially Responsible Party (PRP)** - An individual or company (such as owners, operators, transporters, or generators of hazardous waste) potentially responsible for, or contributing to, the contamination problems at a Superfund Site. Whenever possible, USEPA requires PRPs, through administrative and legal actions, to clean up hazardous waste sites they have contaminated.

**Preliminary Assessment (PA)** - The process under CERCLA of collecting and reviewing available information about a known or suspected spill or release. The USEPA and states use this information to determine if the site requires further study. If further study is needed, a site investigation is undertaken.

**Preliminary Levels of Concern (PLC)** - Concentrations of detected inorganic and organic compounds, that are higher than regulatory levels or risk based concentrations when there are no regulatory levels.

**Principal Organic Hazardous Constituents (POHCs)** - Specific hazardous compounds monitored during an incinerator's trial burn. For each waste feed, one or more POHCs may be designated as a surrogate of the actual waste. Each POHC must be more difficult to burn than the specific waste feed it simulates.

**Products of Incomplete Combustion (PICs)** - Products of incomplete combustion are organic compounds formed when combustion occurs.

**Proposed Plan** - A public participation requirement of CERCLA in which the preferred cleanup strategy, rationale for the preference, alternatives presented in the detailed analysis of the remedial investigation and feasibility study, and waivers to cleanup standards that may be

proposed, are summarized for the public.

**Public Notice** - Both CERCLA and RCRA require that the public be notified of significant milestones in the cleanup process and allow time for the public to comment upon proposed cleanup activities. Typically, public notices are announced in local newspapers, on local radio stations and TV.

**Quality Assurance Project Plan (QAPP)** - A document that presents the organization, objectives, planned activities, and specific QA/QC procedures for the project. Specific protocols for sampling, sample handling and storage, chain of custody, and laboratory and field analyses are defined.

**Quality Assurance/Quality Control (QA/QC)** - A system of procedures, checks, audits, and corrective actions to ensure that all EPA research design and performance, environmental monitoring and sampling and other technical and reporting activities are of the highest achievable quality.

**Record of Decision (ROD)** - A public document that explains which cleanup alternative will be used at a NPL site. The ROD is based on information and technical analysis generated during the remedial investigation and feasibility study and consideration of public comments and community concerns.

**Regional Response Team (RRT)** - Representatives of federal, local and state agencies who may assist in coordination of activities at the request of the On-Scene Coordinator before and during a Superfund response action.

**Remedial Action** - The actual construction or implementation phase that follows the remedial design of the selected cleanup alternative at a Superfund Site.

**Remedial Design** - A phase of remedial action that follows the remedial investigation/feasibility study and includes development of engineering drawings and specifications for a site cleanup.

**Remedial Investigation** - CERCLA investigative and analytical studies performed to determine the nature and extent of hazardous substance contamination.

**Remedial Response** - A long-term action that stops or substantially reduces a release or threat of a release of hazardous substances that is serious but not an immediate threat to public health.

**Removal Action** - Short-term immediate actions taken to address releases of hazardous substances that require expedited response.

**Responsiveness Summary** - A summary of oral and written public comments received by the EPA during a comment period on key documents and the agency's responses to those comments. The responsiveness summary is a key part of the Record of Decision, highlighting community concerns for the USEPA's key decision makers.

**Resource Conservation and Recovery Act (RCRA)** - Federal law that established a regulatory system to track hazardous wastes from generation to disposal. The law requires safe and secure procedures to be used in treating, transporting, storing, and disposing of hazardous wastes. RCRA is designed to prevent the creation of new, uncontrolled hazardous waste sites and ensure the proper disposal of hazardous waste.

**Risk Assessment** - The study and estimation of risk from a current or proposed activity. Risk assessment involves estimates of the probability and consequence of an action.

**Sampling and Analysis Plan (SAP)** - Guidelines and procedures for the sampling and analysis of a specific site.

**Selected Alternative** - The cleanup alternative selected for a site on the NPL based on technical feasibility, permanence, reliability, and cost. The selected alternative does not require EPA to choose the least expensive alternative. It requires that if there are several cleanup alternatives available that deal effectively with the problems at a site, USEPA must choose the remedy on the basis of permanence, reliability, cost, public and state EPA concerns.

**Semi-Volatiles** - Organic compounds which have higher vapor pressure and may convert from a liquid to a gas phase if heated.

**Site Investigation (SI)** - A CERCLA technical phase that follows a preliminary assessment. It is designed to collect more extensive information on a site where hazardous substances have been spilled or released.

**Stabilization/Solidification** - A process, sometimes referred to as immobilization, fixation, or encapsulation, that uses additives or processes to physically or chemically immobilize constituents of a contaminated soil.

**Superfund** - The common name used for the Comprehensive Environmental Response, Compensation, and Liability Act and its amendments.

**Surface Water** - Bodies of water that are above ground, such as rivers, lakes, streams, wetlands and ponds.

**Surrogate** - A compound used as a principal organic hazardous constituent in an incinerator trial burn to represent the hazardous constituents found in high concentrations in the waste feed.

**Target Analyte List (TAL)** - A list of metals and inorganic compounds that have a standard laboratory testing method determined by the USEPA for the Contract Laboratory Program.

**Target Compound List (TCL)** - A list of organic compounds that have a standard laboratory testing method of analysis established. Includes volatile organic compounds, semi-volatile compounds, pesticides, and polychlorinated biphenyls.

**Toxicity Characteristics Leaching Procedure (TCLP)** - The checking of groundwater for toxicity where a landfill or hazardous waste site is located.

**Technical Assistance Grant (TAG) Program** - A grant program that provides funds for qualified citizens' groups to hire independent technical advisors to help them review and comment on technical decisions relating to Superfund cleanup actions.

**Toxic Substances Control Act (TSCA)** - The Federal statute under which PCBs are regulated.

**Treatability Study** - Laboratory or field tests designed to provide critical data needed to evaluate

and, ultimately, to implement one or more treatment technologies. These studies generally involve characterizing untreated waste and evaluating the performance of the technology under different operating conditions.

**Trial Burn** - A test for incinerators in which wastes are fed into the incinerator and emissions are monitored for the presence of specific organic compounds (POHCs), particulates, and hydrogen chloride.

**USACE** - U. S. Army Corps of Engineers

**USEPA** - U. S. Environmental Protection Agency

**USFWS** - The U.S. Fish and Wildlife Service, a bureau of the Department of the Interior.

**Volatiles** - Organic compounds which have a low vapor pressure, therefore, easily converting from a liquid to a gas phase. Usually associated with low ignitability temperature. Examples include benzene in gasoline.

**Waste Control** - Methods to isolate wastes in place or to prevent further migration of wastes into the surrounding environment.

#### **OPPORTUNITIES FOR PUBLIC INVOLVEMENT**

Two **Administrative Record Files** have been established to provide public access to the legal documents on which final remedy decisions will be based. In addition, there are four **Information Repositories** which have information, such as brochures and fact sheets. These documents are available at the following locations during normal business hours.

#### **ADMINISTRATIVE RECORD FILES**

Morris Library  
Fifth Floor  
Southern Illinois University  
Carbondale, IL 62901  
Contact Reference Librarian  
(618) 453-2683

USEPA, Region V  
Attn: Eileen Deamer (PS19J)  
77 West Jackson Blvd.  
Chicago, IL 60604-3590  
(312) 886-1728

#### **INFORMATION REPOSITORIES**

Marion Carnegie Public Library

206 South Market Street  
Marion, IL 62959  
Contact: Mr. Ronald Reed  
(618) 993-5935  
(618) 964-1441

Carbondale Public Library  
405 West Main Street  
Carbondale, IL 62901  
Contact: Mr. Jim Guneter  
(618) 457-0354

USFWS  
Crab Orchard NWR  
Attn: Vanessa Musgrave  
RR 3 Box 328  
Marion, IL 62959  
(618) 997-5491

Marion Federal Penitentiary Library  
Department of Justice  
Bureau of Prisons  
Attn: Steve Fawl  
Rt 5 Little Grassy Rd  
Marion, IL 92959

Inquiries regarding the Superfund activities can be sent or called to Vanessa Musgrave at the address and phone number listed above. In addition, each Federal and State agency has a primary point of contact who is also available to assist you:

Eileen Deamer (PS19J)  
USEPA - Region V  
77 West Jackson Blvd  
Chicago, IL 60604-3590  
(312) 886-1728

Michelle Nickey-Tebrugge  
IEPA  
2200 Churchill Road  
P.O. Box 19276  
Springfield, IL 62794  
(217) 524-5137

Betty White  
U.S. Army Corps of Engineers  
215 N. 17th St.  
Omaha, NE 68102-4978  
(402) 221-3916

USEPA offers **TECHNICAL ASSISTANCE GRANTS (TAGS)** to community groups who wish to obtain qualified technical support in reviewing technical study documents generated for a Superfund site. Information about the TAGs is available in the IRs listed above or by calling the TAG Coordinator, USEPA-Region V, at 1-800-621-8431.