

Environmental Restoration Glossary of Terms

The following is a glossary of terms used in the area of environmental restoration for Joint Base Elmendorf-Richardson.

Action Memorandum. A document that provides a concise, written record of the decision to select an appropriate removal action under the EE/CA process. It summarizes the results of an EE/CA, along with EPA's response decision and parallels the function of a Record of Decision.

Administrative Record. Original documents including correspondence, public comments, the Record of Decision, and technical reports from the agency responsible for the site upon which remedial action selection is based.

Alaska Department of Environmental Conservation (ADEC). The state government agency responsible for overseeing compliance with Alaska state environmental quality regulations.

Area of Concern (AOC). Areas that may have been overlooked during the original 1983 record search and subsequent remedial investigation, and where hazardous materials or petroleum products may have been stored or disposed of. A site becomes an AOC when contamination is addressed in follow-on projects.

Benzene (C₆H₆). A colorless liquid with an aromatic odor. It is widely used in the manufacture of many chemical substances and in the rubber industry. It is commonly found in petroleum products. The Environmental Protection Agency estimates that three-fourths of all Americans have probably been exposed to benzene in varying degrees. Much of the exposure occurs when pumping gasoline.

Bioventing. A technology that supplies oxygen to underground soils using blowers that either inject or extract air through specially designed wells. The oxygen is used to promote bacterial growth and improve the rate at which soil bacteria naturally break down contamination.

Community Environmental Board (CEB). Similar to a RAB organization, however issues addressed cover the entire base's environmental program in addition to the restoration program. Meetings include presenters from a wide gamut of Elmendorf environmental activities to include non-CERCLA contaminated sites, wildlife management and cultural resources.

Community Involvement Plan. A plan that outlines specific community involvement activities that occur during the remedial response at a facility. The Community Involvement Plan provides information about recorded community concerns and outlines how the installation will keep the public informed and involved in the cleanup process at the facility. Formerly known as the Community Relations Plan.

Community Relations Plan. See **Community Involvement Plan**

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). An act that sets up a program to identify sites where hazardous substances have been, or might be, released into the environment to ensure they are cleaned up.

Defense Reutilization and Marketing Office (DRMO). A Defense Department agency that disposes of excess military property or materials, often through reuse, resale, or recycling.

4,4-Dichlorodiphenyldichloroethane (DDD) (C₁₄H₉Cl₄). An insecticide similar to DDT with similar toxicity.

4,4-Dichlorodiphenyltrichloroethane (DDT) (C₁₄H₉Cl₅). The first chlorinated hydrocarbon insecticide. The Environmental Protection Agency banned registration and interstate sale of DDT for virtually all but emergency uses in the United States in 1972 because of a persistence in the environment and accumulation in the food chain.

Emergency Response Action. If a source poses an immediate threat to public health or the environment, an emergency response action will be taken immediately to stop the threat.

Engineering Evaluation/Cost Analysis (EE/CA). The EE/CA is a scaled-down and focused removal action equivalent to an RI/FS that is required when a lead agency determines a removal action is appropriate and that a minimum six-month planning period exists prior to on-site removal action initiation. These contain an evaluation of possible alternative technologies, selection of the removal, and document the decision-making process. They use a screening process and analysis of removal options based upon such factors as technical feasibility, institutional considerations, reasonable cost, timeliness in respect to threat of mitigation, environmental impacts, and protectiveness.

Environmental Restoration Account. The Environmental Restoration Account is an account of money used for cleanup of active, inactive, formerly used lands, and lands and resources affected by past Department of Defense releases of hazardous substances. The Environmental Restoration Account emphasizes the identification, investigation, and cleanup of contamination from hazardous substances and wastes; correction of other environmental damage, such as unexploded ordnance detection and disposal; demolition and removal of unsafe and unsightly buildings and structures; debris removal; and improvements to hazardous waste operations in DOD.

Environmental Protection Agency (EPA). The federal government agency responsible for overseeing compliance with federal environmental regulations.

Environmental Restoration Program (ERP). The DOD program started in 1980 and designed to identify, confirm or quantify, and remediate problems associated with past environmental releases of hazardous substances and petroleum products. As referred to as the Installation Restoration Program.

Ethylbenzene (C₈H₁₀). A chemical commonly found in petroleum products.

Facility. The term “facility,” as defined in CERCLA, refers to any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or any source or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any vessel.

Federal Facility Agreement (FFA). An agreement signed by respective agencies to manage site cleanup under CERCLA. The Air Force, EPA Region 10, and ADEC signed an FFA for Elmendorf AFB in November 1991. The Army, EPA Region 10 and ADEC signed an FFA for Fort Richardson in December 1994.

Fluoranthene (C₁₆H₁₀). A polycyclic aromatic hydrocarbon found in creosote and waste oils that can also be a byproduct of producing plastics.

Groundwater. Underground water that fills pores in soil or openings in rock. When groundwater accumulates in significant quantities and quality, it may be used as a source of drinking water.

Installation Restoration Program (IRP). See **Environmental Restoration Program (ERP)**

Institutional Control. A legal and enforceable restriction or agreement that enhances and complements the permanence of a cleanup remedy. Examples are zoning or land use restrictions limiting use or installation of domestic water supply wells.

Interim Remedial Action (IRA). Early actions taken to eliminate, reduce, or control the hazards posed by a site or to expedite the completion of total site cleanup.

Lead (Pb). A common metal that can be toxic by ingestion or by inhalation of contaminated dust or fumes.

Lead Agency. The agency or organization which has the principal responsibility for carrying out environmental restoration cleanup activities.

Limited Field Investigation (LFI). Screening investigations of potential source areas that lack sufficient data to determine whether these areas pose an unacceptable risk to human health and the environment. Based on LFI results, a source area may be recommended either for no further action or for remedial investigation to fully characterize the nature and extent of contamination.

Long-Term Monitoring (LTM). Measurements of soil, surface water, and/or groundwater taken during environmental remediation to determine the extent of contamination, document concentrations, and evaluate when cleanup levels have been met.

Monitored Natural Attenuation (MNA). Specific, scheduled monitoring of contaminants in soil and water to determine the rate that natural physical, chemical, and biological processes are breaking down contaminants. See **Natural Attenuation**

National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The NCP establishes EPA's response policy and lays out the key regulatory response steps for implementing CERCLA. It is located at 40 Code of Federal Regulations Part 300.

National Priorities List (NPL). The Environmental Protection Agency list of top priority hazardous waste sites in the country that are eligible for investigation and cleanup under the Superfund program.

Natural Attenuation. Natural physical, chemical, and biological processes that break down contaminants in soil and water. Also see "monitored natural attenuation."

Operable Unit (OU). A term used to describe a portion or study area within a CERCLA site. An OU may be based on a particular type of contaminant, contaminated medium (such as soils or water), source of contamination or geographical location.

Petroleum Hydrocarbons. A large group of chemicals that make up oils and gasoline.

Polychlorinated Biphenyls (PCBs). A group of toxic, persistent chemicals used in transformers and capacitors for insulating purposes and in gas pipeline systems as a lubricant. In 1979, further sale or new use of PCBs was banned by law.

Polycyclic Aromatic Hydrocarbons (PAHs). A group of compounds formed as a result of the incomplete combustion of hydrocarbons. They are often produced as a byproduct of burning plastics. PAHs commonly occur in the environment, originating from both natural and man-made sources.

Proposed Plan. A document requesting public input on a proposed cleanup alternative.

Public Comment Period. A time during which the public can review and comment on various documents with environmental impact. For example, CERCLA requires a minimum 30-day comment period is held to allow citizens to review and comment on the proposed plan for cleaning up contamination at a site.

Pyrene (C₁₆H₁₀). A polycyclic aromatic hydrocarbon found in coal tars and waste oils. It is a byproduct of the combustion of fossil fuels.

Radionuclide. An atom with an unstable nucleus. Very low levels of radionuclides are common in air and water; most are naturally occurring and at levels low enough not to be considered a public health concern. When radionuclides are present in higher concentrations, radioactive contamination may be present.

Radium-226 (Ra-226). An isotope of radium, a radioactive chemical element. Radium is an alkaline earth metal that is found in trace amounts in uranium ores. Ra-226 has a half-life of 1,602 years and decays into radon gas.

Receptor. Plants, animals, or human populations that could potentially be exposed to contamination.

Record of Decision (ROD). A public document used to explain the remedial alternative selected for a CERCLA site.

Remedial Action (RA). A long-term action taken to stop or substantially reduce a release, or a threatened release, of hazardous substances, which is a serious but not an immediate threat to public health.

Remedial Action Report (RA Report). This report documents implementation of remedial actions at a site or OU. The report is done when all remedial actions are operational and functional. See **Remedial Action**

Remedial Design (RD). Remedial Design is a set of specific plans prepared to conduct the remedial action selected in the Record of Decision.

Remedial Investigation and Feasibility Study (RI/FS). Two distinct but related studies. The first study is the remedial investigation (RI), which examines the nature and extent of contamination problems at the site. The second is the feasibility study (FS), which evaluates different methods to remediate, or clean up, the contamination problems found during the remedial investigation.

Remedy in Place/Remedial Action-Operation. This is a status indicator for sites where remedial systems are in place and operational

Removal Action. An immediate action taken over the short term to address a release or threatened release of hazardous substances, such as containing waste safely onsite to eliminate further problems, or identifying and removing a source of groundwater contamination to halt the further movement of contaminants. Such interim remedial measures are short of the final remediation for a site.

Response Complete. A status determination that the final site remedy has been constructed in accordance with design specifications, is operational and functional, is being maintained as required by CERCLA and the National Contingency Plan, and that the USAF has certified that all long-term operations and maintenance activities are in place at a site, or that investigations are complete at the site and funding under the ERP will be terminated.

Responsiveness Summary. A summary of oral and/or written public comments received during a comment period on key cleanup action documents and the lead agency's response to those comments. The responsiveness summary is a key part of the Record of Decision, highlighting community concerns for lead agency decision makers.

Restoration Advisory Board (RAB). An advisory board that contains representatives from the military, neighboring communities, regulatory agencies, and public interest groups. The

Restoration Advisory Board is designed to act as a focal point for exchanging information between the base and the community.

Risk Assessment (RA). A process to characterize the nature and magnitude of health risks to humans and ecological systems from chemical contaminants and other stressors that may be present in the environment.

Sediment. A layer of soil, sand, and minerals that covers the bottoms of streams and lake beds. Contaminants often accumulate in sediment.

Selected Remedy. The remedial action that has been selected and approved through the signing of the Record of Decision.

Semi-annual Progress Reports. Reports published twice a year, 1–2 pages in length prepared by the base restoration office on each OU and EE/CA site. Each report summarizes the history, remedial actions, chemicals of concern, action taken during the current quarter and action planned for the upcoming quarter.

Site. The word site can be used to refer to the total area of Elmendorf Air Force Base or Fort Richardson because the entire installations are listed on the National Priorities List. It can also refer to a specific cleanup area within the installation, such as SS22.

Site Closeout. A status determination that no further response actions under the ERP are appropriate or anticipated and the regulatory agencies concur. At NPL sites such as Elmendorf, this step includes following proper procedures for deletion from the NPL.

Solvents. Substances, usually liquids, capable of dissolving or dispersing one or more other substances.

State-Elmendorf Environmental Restoration Agreement (SERA). A regulatory compliance agreement signed on October 2, 1992, by the Alaska Department of Environmental Conservation and Elmendorf Air Force Base. It established a compliance schedule for conducting a variety of environmental cleanup activities at 32 state program source areas at Elmendorf Air Force Base, including petroleum, oil, and lubricants spills and underground storage tanks. The Army and ADEC signed the State-Fort Richardson Underground Storage Tank Compliance Agreement for USTs (Two-Party Agreement) in 1993 and the State-Fort Richardson Environmental Restoration Agreement (Two-Party Agreement) for Non-UST source areas in November 1994.

Superfund. The commonly used term that describes the federal legislation authorizing the Environmental Protection Agency to investigate and respond to the release or threatened release of hazardous substances into the environment. It is also known as CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act). In 1986, Superfund was reauthorized as SARA (Superfund Amendments and Reauthorization Act).

Superfund Amendments and Reauthorization Act (SARA). Modifications to CERCLA enacted on October 17, 1986. The program was dissolved Oct. 21, 2002.

Surface Water. Bodies of water that are above ground, such as rivers, streams, lakes, and ponds, as well as precipitation (rainwater or snow melt) flowing on the ground.

Technical Assistance Grants (TAGs). Technical Assistance Grants, or TAGs, provide up to \$50,000 to community groups wishing to hire consultants to interpret sampling results, reports, and other documents. Twenty percent of the requested funding amount must be matched by the group. The matching funds may be obtained from in-kind services and may originate from any nonfederal source.

Technical Assistance for Public Participation (TAPP). DOD funds made available to a RAB or TRC to help members better understand the scientific and engineering issues involved in an installation's restoration activities. The technical assistance is procured through government purchase orders and is limited to \$25,000 per year or 1% of the total restoration cost, whichever is less.

Technical Review Committee (TRC). This committee provides relevant state and local authorities and the public the opportunity to review and comment on proposed Defense Department response actions, including the review of all applicable data, studies, reports, and action plans. Many installations have replaced their TRC with a Restoration Advisory Board.

Tetrachloroethene (PCE) (C₂Cl₄). Also known as perchloroethene. PCE is used as a dry-cleaning agent; an industrial degreaser; a solvent for oils, paints, and varnishes; and an anesthetic.

Toluene (C₇H₈). A clear liquid with a sweet, pungent odor. Toluene is used in the manufacturing of organic compounds, dyes, and explosives. It is also used as a solvent for paints and coatings and a component of automobile and aviation fuels.

Treatability Study. A study performed to better define the physical and chemical parameters needed to evaluate cleanup options. A treatability study examines the effectiveness of a particular technology for treating specific site wastes.

Trichloroethene (TCE) (C₂HCl₃). A colorless liquid with a sweet odor. It has many common uses such as a general solvent, a degreaser in dry cleaning, or a constituent in the manufacturing of pharmaceuticals.

Underground Storage Tank (UST). As defined under Resource Conservation and Recovery Act, Subtitle I regulations, an UST is any tank that stores regulated substances (such as petroleum products or hazardous substances) and that has at least 10 percent of its volume below the ground surface.

White Phosphorus. A synthetic substance that has been used in poisons, smoke-screens, matches, and fireworks, and has been used as a raw material in the production of phosphoric acid. It has been used in smoke-producing munitions since World War I. White phosphorus is thermodynamically unstable in the presence of atmospheric oxygen.

Xylenes (C₈H₁₀). Chemicals used as solvents and as constituents in paint, lacquers, enamels, and rubber cement. Xylenes are also found in aviation and motor fuels.

More information on contaminants and waste are available at the EPA's website at <http://www.epa.gov/epawaste/topics.htm>.