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Habitat: The place where a population (e.g., human, animal, plant, microorganism) lives and its surroundings, both living and non-living. Habitat Indicator: A physical attribute of the environment measured to characterize conditions necessary to support an organism, population, or community in the absence of pollutants, e.g., salinity of esturine waters or substrate type in streams or lakes.

Half-Life: 1. The time required for a pollutant to lose half its affect on the environment. For example, the biochemical half-life of DDT in the environment is 15 years of Radium. 1,580 years. 2. The time required for half of the atoms of a radioactive element to undergo self-transmutation or decay. 3. The time required for the elimination of one half a total dose from the body.

Halon: Bromine-containing compounds with long atmospheric lifetimes whose breakdown in the stratosphere causes depletion of ozone. Halons are used in fire-fighting.

Hammermill: A high-speed machine that uses hammers and cutters to crush, grind, chip, or shred solid waste.

Hard Water: Alkaline water containing dissolved salts that interfere with some industrial processes and prevent soap from sudsing.

Hardness (water): Characteristic of water caused by presence of various salts. Hard water may interfere with some industrial processes and prevent soap from lathering.

Hauler: Garbage collection company that offers complete refuse removal service; many also will also collect recyclables.

Hazard Communication Standard: An OSHA regulation that requires chemical manufacturers, suppliers, and importers to assess the hazards of the chemicals that they make, supply, or import, and to inform employers, customers, and workers of these hazards through MSDS sheets.

Hazard Evaluation: A component of risk evaluation that involves gathering and evaluating data on the types of health injury or disease that may be produced by a chemical and on the conditions of exposure under which such health effects are produced.

Hazard Identification: Determining if a chemical can cause adverse health effects in humans and what those affects might be.

Hazardous Air Pollutants: Air pollutants which are not covered by ambient air quality standards but which, as defined in the Clean Air Act, may reasonably be expected to cause or contribute to irreversible illness or death. Such pollutants include asbestos, beryllium, mercury, benzene, coke oven emissions, radionuclides, and vinyl chloride.

Hazardous Chemical: An EPA designation for any hazardous material requiring an MSDS under OSHA's Hazard Communication Standard. Such substances are capable of producing fires and explosions or adverse health effects like cancer and dermatitis. Hazardous chemicals are distinct from hazardous waste.(See: Hazardous Waste.)

Hazardous Ranking System: The principle screening tool used by EPA to evaluate risks to public health and the environment associated with abandoned or uncontrolled hazardous waste sites. The HRS calculates a score based on the potential of hazardous substances spreading from the site through the air, surface water, or ground water, and on other factors such as density and proximity of human population. This score is the primary factor in deciding if the site should be on the National Priorities List and, if so, what ranking it should have compared to other sites on the list.

Hazardous Substance: 1. Any material that poses a threat to human health and- /or the environment. Typical hazardous substances are toxic, corrosive, ignitable, explosive, or chemically reactive. 2. Any substance designated by EPA to be reported if a designated quantity of the substance is spilled in the waters of the United States or if otherwise released into the environment.

Hazardous Waste: By-products of society that can pose a substantial or potential hazard to human health or the environment when improperly managed. Possesses at least one of four characteristics (ignitability, corrosivity, reactivity, or toxicity), or appears on special EPA lists.

Hazardous Waste Landfill: An excavated or engineered site where hazardous waste is deposited and covered.

Hazards Analysis: Procedures used to (1) identify potential sources of release of hazardous materials from fixed facilities or transportation accidents; (2) determine the vulnerability of a geographical area to a release of hazardous materials; and (3) compare hazards to determine which present greater or lesser risks to a community.

Hazards Identification: Providing information on which facilities have extremely hazardous substances, what those chemicals are, how much there is at each facility, how the chemicals are stored, and whether they are used at high temperatures.

Health Advisory Level: A non-regulatory health-based reference level of chemical traces (usually in ppm) in drinking water at which there are no adverse health risks when ingested over various periods of time. Such levels are established for one day, 10 days, long term and lifetime exposure periods. They contain a large margin of safety.

Health Assessment: An evaluation of available data on existing or potential risks to human health posed by a Superfund site. The Agency for Toxic Substances and Disease Registry (ATSDR) of the Department of Health and Human Services (DHHS) is required to perform such an assessment at every site on the National Priorities List.

Heat Island Effect: A “dome” of elevated temperatures over an urban area caused by structural and pavement heat fluxes, and pollutant emissions.

Heavy Metals: Metallic elements with high atomic weights, e.g., mercury, chromium, cadmium, arsenic, and lead; can damage living things at low concentrations and tend to accumulate in the food chain. Heptachlor: An insecticide that was banned on some food products in 1975 and all of them 1978. It was allowed for use in seed treatment until 1983. More recently it was found in milk and other dairy products in Arkansas and Missouri where dairy cattle were illegally fed treated seed.

Herbicide: A chemical pesticide designed to control or destroy plants, weeds, or grasses.

Herbivore: An animal that feeds on plants.

Heterotrophic Organisms: Species that are dependent on organic matter for food.

High-Density Polyethylene: A material used to make plastic bottles and other products that produces toxic fumes when burned.

High-Level Radioactive Waste (HLW): Waste generated in core fuel of a nuclear reactor, found at nuclear reactors or by nuclear fuel reprocessing; is a serious threat to anyone who comes near the waste without shielding. (See: low-level radioactive waste.)

High-Level Nuclear Waste Facility: Plant designed to handle disposal of used nuclear fuel, high-level radioactive waste, and plutonium waste.

High-Line Jumpers: Pipes or hoses connected to fire hydrants and laid on top of the ground to provide emergency water service for an isolated portion of a distribution system.

High Risk Community: A community located within the vicinity of numerous sites or facilities or other potential sources of environmental exposure/health hazards which may result in high levels of exposure to contaminants or pollutants. In determining risk or potential risk, factors such as total weight of toxic contaminants, toxicity, routes of exposure, and other factors may be used.

High-to-Low Dose Extrapolation: The process of prediction of low exposure risk to humans from the measured high exposure-high risk data involving rodents.

Holding Pond: A pond or reservoir, usually made of earth, built to store polluted runoff.

Homeowner Water System: Any water system which supplies piped water to a single residence.

Homogeneous Area: In accordance with Asbestos Hazard and Emergency Response Act (AHERA) definitions, an area of surfacing materials, thermal surface insulation, or miscellaneous material that is uniform in color and texture.

Hood Capture Efficiency: Ratio of the emissions captured by a hood and directed into a control or disposal device, expressed as a percent of all emissions.

Host: 1. In genetics, the organism, typically a bacterium, into which a gene from another organism is transplanted. 2. In medicine, an animal infected or parasitized by another organism.

Household Waste (Domestic Waste): Solid waste, composed of garbage and rubbish, which normally originated in a private home or apartment house. Domestic waste may contain a significant amount of toxic or hazardous waste.

Human Equivalent Dose: A dose which, when administered to humans, produces an effect equal to that produced by a dose in animals.

Human Exposure Evaluation: Describing the nature and size of the population exposed to a substance and the magnitude and duration of their exposure. The evaluation could concern past, current, or anticipated exposures.

Human Health Risk: The likelihood that a given exposure or series of exposures may have or will damage the health of individuals.

Hydraulic Gradient: In general, the direction of groundwater flow due to changes in the depth of the water table.

Hydrocarbons (HC): Chemical compounds that consist entirely of carbon and hydrogen.

Hydrogen Sulfide (HS): Gas emitted during organic decomposition. Also a byproduct of oil refining and burning. Smells like rotten eggs and, in heavy concentration, can kill or cause illness.

Hydrogeologic Cycle: The natural process recycling water from the atmosphere down to (and through) the earthy and back to the atmosphere again.

Hydrogeology: The geology of ground water, with particular emphasis on the chemistry and movement of water.

Hydrologic Cycle: Movement or exchange of water between the atmosphere and the earth.

Hydrology: The science dealing with the properties,distribution, and circulation of water.

Hydrophilic: Having a strong affinity for water.

Hydrophobic: Having a strong aversion for water.

Hydropneumatic: A water system, usually small, in which a water pump is automatically controlled by the air pressure in a compressed air tank.

Hypolimnion: Bottom waters of a thermally stratified lake., The hypolimnion of a eutrophic lake is usually low or lacking in oxygen.

Identification Code or EPA I.D. Number: The unique code assigned to each generator, transporter, and treatment, storage, or disposal facility by regulating agencies to facilitate identification and tracking of chemicals or hazardous waste.

Ignitable: Capable of burning or causing a fire.

Imhoff Cone: A clear cone-shaped container used to measure the volume of settleable solids in a specific volume of water.

Immediately Dangerous to Life and Health (IDLH): The maximum level to which a healthy individual can be exposed to a chemical for 30 minutes and escape without suffering irreversible health effects or impairing symptoms. Used as a "level of concern." (See: level of concern.)

Impermeable: Not easily penetrated, The property of a material or soil that does not allow, or allows only with great difficulty, the movement or passage of water.

Impoundment: A body of water or sludge confined by a dam, dike, floodgate, or other barrier.

Incident Command Post: A facility located at a safe distance from an emergency site, where the incident commander, key staff, and technical representatives can make decisions and deploy emergency manpower and equipment.

Incident Command System (ICS): The organizational arrangement wherein one person, normally the Fire Chief of the impacted district, is in charge of an integrated, comprehensive emergency response organization and the emergency incident site, backed by an Emergency Operations Center staff with resources, information, and advice.

Incineration: A treatment technology involving destruction of waste by controlled burning at high temperatures, e.g., burning sludge to remove the water and reduce the remaining residues to a safe, non-burnable ash that can be disposed of safely on land, in some waters, or in underground locations.

Incineration at Sea: Disposal of waste by burning at sea on specially-designed incinerator ships.

Incinerator: A furnace for burning waste under controlled conditions.

Incompatible Waste: A waste unsuitable for mixing with another waste or material because it may react to form a hazard.

Indicator: 1. In biology, an organism, species, or community whose characteristics show the presence of specific environmental conditions. 2. In chemistry, a substance that shows a visible change, usually of color, at a desired point in a chemical reaction. 3. A device that indicates the result of a measurement, e.g., a pressure gauge or a moveable scale.

Indirect Discharge: Introduction of pollutants from a non-domestic source into a publicly owned waste-treatment system. Indirect dischargers can be commercial or industrial facilities whose wastes enter local sewers.

Indirect Source: Any facility or building, property, road or parking facility that attracts motor vehicle traffic and, indirectly, causes pollution.

Indoor Air: The breathing air inside a habitable structure or conveyance.

Indoor Air Pollution: Chemical, physical, or biological contaminants in indoor air.

Indoor Climate: Temperature, humidity, lighting, and noise levels in a habitable structure or conveyance. Indoor climate can affect indoor air pollution.

Industrial Pollution Prevention: Combination of industrial source reduction and toxic chemical use substitution

Industrial Source Reduction: Practices that reduce the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment; Also reduces the threat to public health and the environment associated with such releases. Term includes equipment or technology modifications, substitution of raw materials, and improvements in housekeeping, maintenance, training or inventory control.

Industrial Waste: Unwanted materials from an industrial operation; may be liquid, sludge, solid, or hazardous waste.

Inert Ingredient: Pesticide components such as solvents, carriers, dispersants, and surfactants that are not active against target pests. Not all inert ingredients are innocuous.

Inertial Separator: A device that uses centrifugal force to separate waste particles.

Infectious Agent: Any organism, such as a virus or bacterium, that is pathogenic and capable of being communicated by invasion and multiplication in body tissues.

Infectious Waste: Hazardous waste with infectious characteristics, including: contaminated animal waste; human blood and blood products; isolation waste, pathological waste; and discarded sharps (needles, scalpels or broken medical instruments.)

Infiltration: 1. The penetration of water through the ground surface into sub-surface soil or the penetration of water from the soil into sewer or other pipes through defective joints, connections, or manhole walls. 2. The technique of applying large volumes of waste water to land to penetrate the surface and percolate through the underlying soil. (See: percolation.)

Infiltration Gallery: A subsurface groundwater collection system, typically shallow in depth, constructed with open-jointed or perforated pipes that discharge collected water into a water-tight chamber from which the water is pumped to treatment facilities and into the distribution system. Usually located close to streams or ponds.

Infiltration Rate: The quantity of water than can enter the soil in a specified time interval.

Inflow: Entry of extraneous rain water into a sewer system from sources other than infiltration, such as basement drains, manholes, storm drains, and street washing.

Influent: Water, wastewater, or other liquid flowing into a reservoir, basin, or treatment plant.

Information File: In the Superfund program, a file that contains accurate, up-to-date documents on a Superfund site. The file is usually located in a public building (school, library, or city hall) convenient for local residents.

Initial Compliance Period (water): The first full three-year compliance period which begins at least 18 months after promulgation.

Injection Well: A well into which fluids are injected for purposes such as waste disposal, improving the recovery of crude oil, or solution mining.

Injection Zone: A geological formation receiving fluids through a well.

In-line Filtration: Pre-treatment method in which chemical coagulants directly to the filter inlet pipe. The chemicals are mixed by the flowing water> Commonly used in pressure filtration installations. Eliminates need for flocculation and sedimentation.

Innovative Technologies: New or inventive methods to treat effectively hazardous waste and reduce risks to human health and the environment.

Inoculum: 1. Bacterium placed in compost to start biological action. 2. A medium containing organisms that is introduced into cultures or living organisms.

Inorganic Chemicals: Chemical substances of mineral origin, not of basically carbon structure.

Insecticide: A pesticide compound specifically used to kill or prevent the growth of insects.

Inspection and Maintenance (I/M): 1. Activities to assure that vehicles' emissions -controls work properly. 2. Also applies to wastewater treatment plants and other anti-pollution facilities and processes.

Instream Use: Water use taking place within a stream channel, e.g., hydroelectric power generation, navigation, water quality improvement, fish propagation, recreation.

In-Situ Stripping: Treatment system that remove or "strips" volatile organic compounds from contaminated ground or surface water by forcing an airstream through the water and causing the compounds to evaporate.

Integrated Exposure Assessment: Cumulative summation (over time) of the magnitude of exposure to a toxic chemical in all media.

Integrated Pest Management (IPM): A mixture of chemical and other, non-pesticide, methods to control pests.

Integrated Waste Management: Using a variety of practices to handle municipal solid waste; can include source reduction, recycling, incineration, and landfilling.

Interceptor Sewers: Large sewer lines that, in a combined system, control the flow of sewage to the treatment plant. In a storm, they allow some of the sewage to flow directly into a receiving stream, thus keeping it from overflowing onto the streets. Also used in separate systems to collect the flows from main and trunk sewers and carry them to treatment points.

Interface: The common boundary between two substances such as water and a solid, water and a gas, or two liquids such as water and oil.

Interim (Permit) Status: Period during which treatment, storage and disposal facilities coming under RCRA in 1980 are temporarily permitted to operate while awaiting a permanent permit. Permits issued under these circumstances are usually called “Part A” or “Part B” permits.

Interstate Carrier Water Supply: A source of water for drinking and sanitary use on planes, buses, trains, and ships operating in more than one state. These sources are federally regulated.

Interstate Commerce Clause: A clause of the U.S. Constitution which reserves to the federal government the right to regulate the conduct of business across state lines. Under this clause, for example, the U.S. Supreme Court has ruled that states may not inequitably restrict the disposal out-of-state wastes in their jurisdictions.

Interstate Waters: Waters that flow across or form part of state or international boundaries, e.g., the Great Lakes, the Mississippi River, or coastal waters.

Interstitial Monitoring: The continuous surveillance of the space between the walls of an underground storage tank.

Inventory (TSCA): Inventory of chemicals produced pursuant to Section 8 (b) of the Toxic Substances Control Act.

Inversion: A layer of warm air preventing the rise of cooling air and pollutants trapped beneath it. Can cause an air pollution episode.

Ion: An electrically charged atom that can be drawn from waste water during electrodialysis.

Ion Exchange Treatment: A common water-softening method often found on a large scale at water purification plants that remove some organics and radium by adding calcium oxide or calcium hydroxide to increase the ph to a level where the metals will precipitate out.

Ionization Chamber: A device that measures the intensity of ionizing radiation.

Ionizing Radiation: Radiation that can strip electrons from atoms, i.e., alpha, beta, and gamma radiation.

Irradiated Food: Food subject to brief radioactivity, usually gamma rays, to kill insects, bacteria, and mold, and to permit storage without refrigeration.

Irradiation: Exposure to radiation of wavelengths shorter than those of visible light (gamma, x-ray, or ultraviolet), for medical purposes, to sterilize milk or other foodstuffs, or to induce polymerization of monomers or vulcanization of rubber.

Irreversible Effect: Effect characterized by the inability of the body to partially or fully repair injury caused by a toxic agent.

Irrigation: Applying water or wastewater to land areas to supply the water and nutrient needs of plants.

Irrigation Efficiency: The amount of water stored in the crop root zone compared to the amount of irrigation water applied.

Irrigation Return Flow: Surface and subsurface water which leaves the field following application of irrigation water.

Irritant: A substance that can cause irritation of the skin, eyes, or respiratory system. Effects may be acute from a single high level exposure, or chronic from repeated low-level exposures to such compounds as chlorine, nitrogen dioxide, and nitric acid.

Isotope: A variation of an element that has the same atomic number of protons but a different weight because of the number of neutrons. Various isotopes of the same element may have different radioactive behaviors, some are highly unstable.

Jar Test: A laboratory procedure that simulates a water treatment plant's coagulation/flocculation units with differing chemical doses, mix speeds, and settling times to estimate the minimum or ideal coagulant dose required to achieve certain water quality goals.

Karst: A geologic formation of irregular limestone deposits with sinks, underground streams, and caverns.

Kinetic Energy: Energy possessed by a moving body of water as a result of its motion.

Kinetic Rate Coefficient: A number that describes the rate at which a water constituent such as a biochemical oxygen demand or dissolved oxygen rises or falls.

Lagoon: 1. A shallow pond where sunlight, bacterial action, and oxygen work to purify wastewater; also used for storage of wastewater or spent nuclear fuel rods. 2. Shallow body of water, often separated from the sea by coral reefs or sandbars.

Land Application: Discharge of wastewater onto the ground for treatment or reuse. (See: irrigation.)

Land Ban: Phasing out of land disposal of most untreated hazardous wastes, as mandated by the 1984 RCRA amendments.

Land Farming (of waste): A disposal process in which hazardous waste deposited on or in the soil is degraded naturally by microbes.

Landfills: 1. Sanitary landfills are disposal sites for non-hazardous solid wastes spread in layers, compacted to the smallest practical volume, and covered by material applied at the end of each operating day. 2. Secure chemical landfills are disposal sites for hazardous waste, selected and designed to minimize the chance of release of hazardous substances into the environment.

Landscape: The traits, patterns, and structure of a specific geographic area, including its biological composition, its physical environment, and its anthropogenic or social patterns. An area where interacting ecosystems are grouped and repeated in similar form.

Landscape Characterization: Documentation of the traits and patterns of the essential elements of the landscape.

Landscape Ecology: The study of the distribution patterns of communities and ecosystems, the ecological processes that affect those patterns, and changes in pattern and process over time.

Landscape Indicator: A measurement of the landscape, calculated from mapped or remotely sensed data, used to describe spatial patterns of land use and land cover across a geographic area. Landscape indicators may be useful as measures of certain kinds of environmental degradation such as forest fragmentation.

Langelier Index (LI): An index reflecting the equilibrium pH of a water with respect to calcium and alkalinity; used in stabilizing water to control both corrosion and scale deposition.

Large Quantity Generator: Person or facility generating more than 2200 pounds of hazardous waste per month. Such generators produce about 90 percent of the nation's hazardous waste, and are subject to all RCRA requirements.

Large Water System: A water system that serves more than 50,000 persons.

Latency: Time from the first exposure of a chemical until the appearance of a toxic effect.

Lateral Sewers: Pipes that run under city streets and receive the sewage from homes and businesses, as opposed to domestic feeders and main trunk lines.

Laundering Weir: Sedimentation basin overflow weir.

LC50/Lethal Concentration: Median level concentration, a standard measure of toxicity. It tells how much of a substance is needed to kill half of a group of experimental organisms in a given time. (See: LD50.)

LD 50/ Lethal Dose: The dose of a toxicant that will kill 50 percent of the test organisms within a designated period. The lower the LD 50, the more toxic the compound.

Leachate: Water that collects contaminants as it trickles through wastes, pesticides or fertilizers. Leaching may occur in farming areas, feedlots, and landfills, and may result in hazardous substances entering surface water, ground water, or soil.

Leachate Collection System: A system that gathers leachate and pumps it to the surface for treatment.

Leaching: The process by which soluble constituents are dissolved and filtered through the soil by a percolating fluid. (See: leachate.)

Lead (Pb): A heavy metal that is hazardous to health if breathed or swallowed. Its use in gasoline, paints, and plumbing compounds has been sharply restricted or eliminated by federal laws and regulations. (See: heavy metals.)

Lead Service Line: A service line made of lead which connects the water main to the building inlet and any lead fitting connected to it.

Legionella: A genus of bacteria, some species of which have caused a type of pneumonia called Legionnaires Disease.

Level of Concern (LOC): The concentration in air of an extremely hazardous substance above which there may be serious immediate health effects to anyone exposed to it for short periods

Lifetime Exposure: Total amount of exposure to a substance that a human would receive in a lifetime (usually assumed to be 70 years).

Lift: In a sanitary landfill, a compacted layer of solid waste and the top layer of cover material. Lifting Station: (See: pumping station.)

Limestone Scrubbing: Use of a limestone and water solution to remove gaseous stack-pipe sulfur before it reaches the atmosphere.

Limited Degradation: An environmental policy permitting some degradation of natural systems but terminating at a level well be neath an established health standard.

Limiting Factor: A condition whose absence or excessive concentration, is incompatible with the needs or tolerance of a species or population and which may have a negative influence on their ability to thrive. survive.

Limnology: The study of the physical, chemical, hydrological, and biological aspects of fresh water bodies.

Lindane: A pesticide that causes adverse health effects in domestic water supplies and is toxic to freshwater fish and aquatic life.

Liner: 1. A relatively impermeable barrier designed to keep leachate inside a landfill. Liner materials include plastic and dense clay. 2. An insert or sleeve for sewer pipes to prevent leakage or infiltration.

Lipid Solubility: The maximum concentration of a chemical that will dissolve in fatty substances. Lipid soluble substances are insoluble in water. They will very selectively disperse through the environment via uptake in living tissue.

Liquefaction: Changing a solid into a liquid.

Liquid Injection Incinerator: Commonly used system that relies on high pressure to prepare liquid wastes for incineration breaking them up into tiny droplets to allow easier combustion.

List: Shorthand term for EPA list of violating facilities or firms debarred from obtaining government contracts because they violated certain sections of the Clean Air or Clean Water Acts. The list is maintained by The Office of Enforcement and Compliance Monitoring.

Listed Waste: Wastes listed as hazardous under RCRA but which have not been subjected to the Toxic Characteristics Listing Process because the dangers they present are considered self-evident.

Litter: The highly visible portion of solid waste carelessly discarded outside the regular garbage and trash collection and disposal system.

Littoral Zone: 1. That portion of a body of fresh water extending from the shoreline lakeward to the limit of occupancy of rooted plants. 2. The strip of land along the shoreline between the high and low water levels.

Local Education Agency (LEA): In the asbestos program, an educational agency at the local level that exists primarily to operate schools or to contract for educational services, including primary and secondary public and private schools. A single, unaffiliated school can be considered an LEA for AHERA purposes.

Local Emergency Planning Committee (LEPC): A committee appointed by the state emergency response commission, as required by SARA Title III, to formulate a comprehensive emergency plan for its jurisdiction.

Low NOx Burners: One of several combustion technologies used to reduce emissions of Nitrogen Oxides (NOx.)

Lowest-Observed-Adverse-Effect-Level: The lowest dose in an experiment which produced an observable adverse effect.

Low-Level Radioactive Waste (LLRW): Wastes less hazardous than most of those associated with nuclear reactor; generated by hospitals, research laboratories, and certain industries. The Department of Energy, Nuclear Regulatory Commission, and EPA share responsibilities for managing them. (See: high-level radioactive wastes.)

Lower Explosive Limit (LEL): The concentration of a compound in air below which the mixture will not catch on fire.

Lowest Achievable Emission Rate: Under the Clean Air Act, the rate of emissions that reflects (a) the most stringent emission limitation in the implementation plan of any state for such source unless the owner or operator demonstrates such limitations are not achievable; or (b) the most stringent emissions limitation achieved in practice, whichever is more stringent. A proposed new or modified source may not emit pollutants in excess of existing new source standards.

Magnetic Separation: Use of magnets to separate ferrous materials from mixed municipal waste stream.

Managerial Controls: Methods of nonpoint source pollution control based on decisions about managing agricultural wastes or application times or rates for agrochemicals.

Mandatory Recycling: Programs which by law require consumers to separate trash so that some or all recyclable materials are recovered for recycling rather than going to landfills.

Man-Made Beta Particle and Photon Emitters: All radionuclides emitting beta particles and/or photos listed in Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and Water for Occupational Exposure.

Manual Separation: Hand sorting of reyclable or compostable materials in waste.

Major Modification: This term is used to define modifications of major stationary sources of emissions with respect to Prevention of Significant Deterioration and New Source Review under the Clean Air Act.

Major Stationary Sources: Term used to determine the applicability of Prevention of Significant Deterioration and new source regulations. In a nonattainment area, any stationary pollutant source with potential to emit more than 100 tons per year is considered a major stationary source. In PSD areas the cutoff level may be either 100 or 250 tons, depending upon the source.

Majors: Larger publicly owned treatment works (POTWs) with flows equal to at least one million gallons per day (mgd) or servicing population equivalent to 10,000 persons; certain other POTWs having significant water quality impacts. (See: minors.)

Management Plan: Under the Asbestos Hazard Emergency Response Act (AHERA), a document that each Local Education Agency is required to prepare, describing all activities planned and undertaken by a school to comply with AHERA regulations, including building inspections to identify asbestos-containing materials, response actions, and operations and maintenance programs to minimize the risk of exposure.

Manifest System: Tracking of hazardous waste from "cradle to grave" (generation through disposal) with accompanying documents known as manifests.(See: Cradle to Grave.)

Manual Separation: Hand separation of compostable or recyclable material from waste.

Manufacturers Formulation: A list of substances or component parts as described by the maker of a coating, pesticide, or other product containing chemicals or other substances.

Margin of Safety: Maximum amount of exposure producing no measurable effect in animals (or studied humans) divided by the actual amount of human exposure in a population.

Marine Sanitation Device: Any equipment or process installed on board a vessel to receive, retain, treat, or discharge sewage.

Marsh: A type of wetland that does not accumulate appreciable peat deposits and is dominated by herbaceous vegetation. Marshes may be either fresh or saltwater, tidal or non-tidal. (See: wetlands.)

Material Category: In the asbestos program, broad classification of materials into thermal surfacing insulation, surfacing material, and miscellaneous material.

Materials Recovery Facility: A facility that processes residentially collected mixed recyclables into new products available for market.

Material Type is classification of suspect material by its specific use or application, e.g., pipe insulation, fireproofing, and floor tile.

Material Safety Data Sheet (MSDS): A compilation of information required under the OSHA Communication Standard on the identity of hazardous chemicals, health, and physical hazards, exposure limits, and precautions. Section 311 of SARA requires facilities to submit MSDSs under certain circumstances.

Materials Recovery Facility (MRF): Facility that processes residentially collected mixed recyclables into new products.

Maximum Contaminant Level: The maximum permissible level of a contaminant in water delivered to any user of a public system. MCLs are enforceable standards.

Maximum Contaminant Level Goal (MCLG): Under the Safe Drinking Water Act, a non-enforceable concentration of a drinking water contaminant, set at the level at which no known or anticipated adverse effects on human health occur and which allows an adequate safety margin. The MCLG is usually the starting point for determining the regulated Maximum Contaminant Level. (See; Maximum Contaminant Level.)

Maximum Tolerated Dose: The maximum doses that an animal species can tolerate for a major portion of its lifetime without significant impairment or toxic effect other than carcinogenicity.

Mechanical Aeration: Use of mechanical energy to inject air into water to cause a waste stream to absorb oxygen.

Mechanical Separation: Using mechanical means to separate waste into various components.

Mechanical Turbulence: Random irregularities of fluid motion in air caused by buildings or other non-thermal, processes.

Media: Specific environments-air, water, soil-which are the subject of regulatory concern and activities.

Medical Surveillance: A periodic comprehensive review of a worker's health status; acceptable elements of such surveillance program are listed in the Occupational Safety and Health Administration standards for asbestos.

Medical Waste: Any solid waste generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals, excluding hazardous waste identified or listed under 40 CFR Part 261 or any household waste as defined in 40 CFR Sub-section 261.4 (b)(1)).

Medium-size Water System: A water system that serves than 3,300 to 50,000 persons.

Meniscus: The curved top of a column of liquid in a small tube.

Mercury: A heavy metal that can accumulate in the environment and is highly toxic if breathed or swallowed. (See: heavy metals.)

Mesotrophic: Reservoirs and lakes which contain moderate quantities of nutrients and are moderately productive in terms of aquatic animal and plant life.

Metabolites: Any substances produced by biological processes, such as those from pesticides.

Methoxychlor: Pesticide which causes adverse health effects in domestic water supplies and is toxic to freshwater and marine aquatic life.: The middle layer of a thermally stratified lake or reservoir. In this layer there is a rapid decrease in temperature with depth. Also called thermocline.

Methane: A colorless, nonpoisonous, flammable gas created by anaerobic decomposition of organic compounds.

Methanol: An alcohol that can be used as an alternative fuel or as a gasoline additive. It is less volatile than gasoline; when blended with gasoline it lowers the carbon monoxide emissions but increases hydrocarbon emissions. Used as pure fuel, its emissions are less ozone-forming that those from gasoline.

Method 18: An EPA test method which uses gas chromatographic techniques to measure the concentration of volatile organic compounds in a gas stream.

Method 24: An EPA reference method to determine density, water content and total volatile content (water and VOC) of coatings.

Method 25: An EPA reference method to determine the VOC concentration in a gas stream.

Methoxychlor: Pesticide that causes adverse health effects in domestic water supplies and is toxic to freshwater and marine aquatic life.

Methyl Orange Alkalinity: A measure of the total alkalinity in a water sample in which to color of methyl orange reflects the change in level.

Microbial Growth: The activity and growth of microorganisms such as bacteria, algae, diatoms, plankton, and fungi.

Microclimate: The localized climate conditions with in an urban area or neighborhood.

Microbial Pesticide: A microorganism that is used to control a pest, but of minimum toxicity to man.

Million-gallons Per Day (MGD): A measure of water flow.

Minimization: A comprehensive program to minimize or eliminate wastes, usually applied to wastes at their point of origin. (See: waste minimization.)

Mining of an Aquifer: Withdrawal of ground water over a period of time that exceeds the rate of recharge of the aquifer.

Minors: Publicly owned treatment works with flows less than 1 million gallons per day. (See: majors.)

Miscellaneous ACM: Interior asbestos-containing building material or structural components, members or fixtures, such as floor and ceiling tiles; does not include surfacing materials or thermal system insulation.

Miscellaneous materials: Interior building materials on structural components, such as floor or ceiling tiles.

Miscible Liquids: Two or more liquids that can be mixed and will remain mixed under normal conditions.

Missed Detection: The situation that occurs when a test indicates that a tank is “tight” when in fact it is leaking.

Mist: Liquid particles measuring 40 to 500 microns, are formed by condensation of vapor. By comparison, fog particles are smaller than 40 microns.

Mitigation: Measures taken to reduce adverse impacts on the environment.

Mixed Funding: Settlements in which potentially responsible parties and EPA share the cost of a response action.

Mixed Liquor: A mixture of activated sludge and water containing organic matter undergoing activated sludge treatment in an aeration tank.

Mobile Incinerator Systems: Hazardous waste incinerators that can be transported from one site to another.

Mobile Source: Any non-stationary source of air pollution such as cars, trucks, motorcycles, buses, airplanes, locomotives.

Model Plant: A hypothetical plant design used for developing economic, environmental, and energy impact analyses as support for regulations or regulatory guidelines; first step in exploring the economic impact of a potential NSPS.

Modified Source: The enlargement of a major stationery source is often referred to as modification, implying that more emissions will occur.

Molecule: The smallest division of a compound that still retains or exhibits all the properties of the substance.

Molten Salt Reactor: A thermal treatment unit that rapidly heats waste in a heat-conducting fluid bath of carbonate salt.

Monitoring: Periodic or continuous surveillance or testing to determine the level of compliance with statutory requirements and/or pollut ant levels in various media or in humans, plants, and animals.

Monitoring Well: 1. A well used to obtain water quality samples or measure groundwater levels. 2. Well drilled at a hazardous waste management facility or Superfund site to collect ground-water samples for the purpose of physical, chemical, or biological analysis to determine the amounts, types, and distribution of contaminants in the ground water beneath the site.

Monoclonal Antibodies: (Also called MABs and MCAs) 1. Man-made clones of a molecule, produced in quantity for medical or research purposes. 2. Molecules of living organisms that selectively find and attach to other molecules to which their structure conforms exactly. This could also apply to equivalent activity by chemical molecules.

Monomictic: Lakes and reservoirs which are relatively deep, do not freeze over during the winter months, and undergo a single stratification and mixing cycle during the year (usually in the fall).

Moratorium: During the negotiation process, a period of 60 to 90 days during which EPA and potentially responsible parties may reach settlement but no site response activities can be conducted.

Morbidity: Rate of disease incidence.

Most Probable Number: The most probable number of coliform-group organisms per unit volume of sample water.

Muck Soils: Earth made from decaying plant materials.

Mudballs: Round material that forms in filters and gradually increases in size when not removed by backwashing.

Mulch: A layer of material (wood chips, straw, leaves, etc.) placed around plants to hold moisture, prevent weed growth, and enrich or sterilize the soil.

Multiple Use: Use of land for more than one purpose; i.e., grazing of livestock, watershed and wildlife protection, recreation, and timber production. Also applies to use of bodies of water for recreational purposes, fishing, and water supply.

Multistage Remote Sensing: A strategy for landscape characterization that involves gathering and analyzing information at several geographic scales, ranging from generalized levels of detail at the national level through high levels of detail at the local scale.

Municipal Discharge: Discharge of effluent from waste water treatment plants which receive waste water from households, commercial establishments, and industries in the coastal drainage basin. Combined sewer/separate storm overflows are included in this category.

Municipal Sewage: Wastes (mostly liquid) originating from a community; may be composed of domestic wastewaters and/or industria discharges.

Mutagen/Mutagenicity: An agent that causes a permanent genetic change in a cell other than that which occurs during normal genetic recombination. Mutagenicity is the capacity of a chemical or physical agent to cause such permanent alternation.

National Ambient Air Quality Standards (NAAQS): Standards established by EPA that apply for outside air throughout the country. (See: criteria pollutants, state implementation plans, emissions trading.)

National Emissions Standards For Hazardous Air Pollutants (NESHAPS): Emissions standards set by EPA for an air pollutant not covered by NAAQS that may cause an increase in fatalities or in serious, irreversible, or incapacitating illness. Primary standards are designed to protect human health, secondary standards to protect public welfare (e.g., building facades, visibility, crops, and domestic animals).

National Estuary Program: A program established under the Clean Water Act Amendments of 1987 to develop and implement conservation and management plans for protecting estuaries and restoring and maintaining their chemical, physical, and biological integrity, as well as controlling point and nonpoint pollution sources.

National Interim Primary Drinking Water Regulations: Commonly referred to as NIPDWRs.

National Municipal Plan: A policy created in 1984 by EPA and the states in 1984 to bring all publicly owned treatment works (POTWs) into compliance with Clean Water Act requirements.

National Oil and Hazardous Substances Contingency Plan (NOHSCP/NCP): The federal regulation that guides determination of the sites to be corrected under both the Superfund program and the program to prevent or control spills into surface waters or elsewhere.

National Pollutant Discharge Elimination System (NPDES): A provision of the Clean Water Act which prohibits discharge of pollutants into waters of the United States unless a special permit is issued by EPA, a state, or, where delegated, a tribal government on an Indian reservation.

National Priorities List (NPL): EPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under Superfund. The list is based primarily on the score a site receives from the Hazard Ranking System. EPA is required to update the NPL at least once a year. A site must be on the NPL to receive money from the Trust Fund for remedial action.

National Response Team (NRT): Representatives of 13 federal agencies that, as a team, coordinate federal responses to nationally significant incidents of pollution-an oil spill, a major chemical release, or a Superfund response action-and provide advice and technical assistance to the responding agency(ies) before and during a response action.

National Response Center: The federal operations center that receives notifications of all releases of oil and hazardous substances into the environment; open 24 hours a day, is operated by the U.S. Coast Guard, which evaluates all reports and notifies the appropriate agency.

National Secondary Drinking Water Regulations: Commonly referred to as NSDWRs.

Navigable Waters: Traditionally, waters sufficiently deep and wide for navigation by all, or specified vessels; such waters in the United States come under federal jurisdiction and are protected by certain provisions of the Clean Water Act.

bDeath of plant or animal cells or tissues. In plants, necrosis can discolor stems or leaves or kill a plant entirely.

Negotiations: (Under Superfund) After potentially responsible parties are identified for a site, EPA coordinates with them to reach a settlement that will result in the PRP paying for or conducting the cleanup under EPA supervision. If negotiations fail, EPA can order the PRP to conduct the cleanup or EPA can pay for the cleanup using Superfund monies and then sue to recover the costs.

Nematocide: A chemical agent which is destructive to nematodes.

Nephelometric: A means of measuring turbidity in a sample by passing light through a sample and measuring the amount of light deflected.

Netting: A concept in which all emissions sources in the same area that are owned or controlled by single company are treated as one large source, thereby allowing flexibility in controlling individual sources in order to meet a single emissions standard. (See: bubble.)

Neutralization: Decreasing the acidity or alkalinity of a substance by adding alkaline or acidic materials, respectively.

New Source: Any stationary source built or modified after publication of final or proposed regulations that prescribe a given standard of performance.

New Source Performance Standards (NSPS): Uniform national EPA air emission and water effluent standards which limit the amount of pollution allowed from new sources or from modified existing sources. New Source Review (NSR): Clean Air Act requirement that requires State Implementation Plans go include a permit review that applies to the construction and operation of new and modified major stationary sources in nonattainment areas to assure attainment of the national ambient air quality standards.

Nitrate: Plant nutrient and inorganic fertilizer that enters water supply sources from septic systems, animal feed lots, agricultural fertilizers, manure, industrial waste waters, sanitary landfills and garbage dumps.

Nitric Oxide (NO): A gas formed by combustion under high temperature and high pressure in an internal combustion engine; changes into nitrogen dioxide in the ambient air and contributes to photochemical smog.

Nitrification: The process whereby ammonia in wastewater is oxidized to nitrite and then to nitrate by bacterial or chemical reactions.

Nitrilotriacetic Acid (NTA): A compound now replacing phosphates in detergents:

Nitrite: 1. An intermediate in the process of nitrification. 2. Nitrous oxide salts used in food preservation

Nitrogen Dioxide (NO2): The result of nitric oxide combining with oxygen in the atmosphere; major component of photochemical smog. Nitrogen Oxide (NOx): Product of combustion from transportation and stationary sources and a major contributor to the formation of ozone in the troposphere and to acid deposition.

Nitrogenous Wastes: Animal or vegetable residues that contain significant amounts of nitrogen.

Nitrophenols: Synthetic organopesticides containing carbon, hydrogen, nitrogen, and oxygen.

Noble Metal: Chemically inactive metal such as gold; does not corrode easily.

No Further Remedial Action Planned: Determination made by EPA following a preliminary assessment that a site does not pose a significant risk and so requires no further activity under CERCLA.

Noise: Product-level or product-volume changes occurring during a test that are not related to a leak but may be mistaken for one.

Non-Attainment Area: Area that does not meet one or more of the National Ambient Air Quality Standards for the criteria pollutants designated in the Clean Air Act.

Non-Binding Allocations of Responsibility (NBAR): Process for EPA to propose a way for potentially responsible parties to allocate costs among themselves.

Non-Community Water System: A public water system that is not a community water system, e.g., the water supply at a camp site or national park.

Noncompliance Coal: Any coal, when burned, that emits greater than 3.0 pounds of sulfur dioxide per million Btu. Also known as high sulfur coal.

Non-Contact Cooling Water: Water used for cooling which does not come into direct contact with any raw material, product, byproduct, or waste.

Non-Conventional Pollutant: Any pollutant not statutorily listed or which is poorly understood by the scientific community.

Non-degradation: An environmental policy which disallows any lowering of naturally occurring quality regardless of preestablished health standards.

Nondischarging Treatment Plant: A treatment plant that does not discharge treated wastewater into any stream or river. Most are pond systems that dispose of the total flow they receive by means of evaporation or percolation to groundwater, or facilities that dispose of their effluent by recycling or reuse (e.g., spray irrigation or groundwater discharge).

Nonfriable Asbestos-containing Materials: Any material containing more than one percent asbestos (as determined by Polarized Light Microscopy) that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Non-ionizing Electromagnetic Radiation: 1. Radiation that does not change the structure of atoms but does heat tissue and may cause harmful biological effects. 2. Microwaves, radio waves, and low-frequency electromagnetic fields from high-voltage transmission lines.

Non-Point Source: Diffuse pollution sources (i.e., without a single point of origin or not introduced into a receiving stream from a specific outlet). The pollutants are generally carried off the land by storm water. Common nonpoint sources are agriculture, forestry, urban, mining, construction, dams, channels, land disposal, saltwater intrusion, and city streets.

Non-potable: Water that is unsafe or unpalatable to drink because in contains objectionable pollution, contamination, minerals, or infective agents.

Non-Road Emissions: Pollutants emitted by combustion engines on farm and construction equipment, gasoline-powered lawn and garden equipment, and power boats and outboard motors.

Non-Transient Non-Community Water System: A public water system that regularly serves at least 25 of the same nonresident persons per day for more than six months per year.

No Observable Adverse Effect Level (NOAEL): From long-term toxicological studies of agriculture chemical active ingredients, levels at which indicate a safe, lifetime exposure level for a given chemical. Used to establish tolerance for human diets. Also written, NOEL.

Notice of Deficiency: An EPA request to a facility owner or operator requesting additional information before a preliminary decision on a permit application can be made.

Notice of Intent to Deny: Notification by EPA of its preliminary intent to deny a permit application.

No Till: Planting crops without prior seedbed preparation, into an existing cover crop, sod, or crop residues, and eliminating subsequent tillage operations.

Nuclear Reactors and Support Facilities: Uranium mills, commercial power reactors, fuel reprocessing plants, and uranium enrichment facilities.

Nuclear Winter: Prediction by some scientists that smoke and debris rising from massive fires of a nuclear war could block sunlight for weeks or months, cooling the earth's surface and producing climate changes that could, for example, negatively effect world agricultural and weather patterns.

Nuclide: A species of atom characterized by the number of protons, neutrons, and energy in the nucleus.

Nutrient: Any substance assimilated by living things that promotes growth. The term is generally applied to nitrogen and phosphorus in wastewater, but is also applied to other essential and trace elements.

Nutrient Pollution: Contamination of water resources by excessive inputs of nutrients. In surface waters, excess algal production is a major concern.

Ocean Discharge Waiver: A variance from Clean Water Act requirements for discharges into marine waters.

Odor Threshold: The minimum odor of a water sample that can just be detected after successive dilutions with odorless water. Also called threshold odor.

Offsets: A concept whereby emissions from a proposed new or modified stationary source are balanced by reductions from existing sources to stabilize total emissions. (See: bubble, emissions trading, netting.)

Off-Site Facility: A hazardous waste treatment, storage or disposal area that is located away from the generating site.

Offstream Uses: Water withdrawn from surface or groundwater sources for use at another place.

Oil Desulfurization: Widely used precombustion method for reducing sulfur dioxide emissions from oil-burning power plants. The oil is treated with hydrogen. which removes some of the sulfur by forming hydrogen sulfide gas.

Oil Fingerprinting: A method that identifies sources of oil and allows spills to be traced to their source.

Oil Spill: An accidental or intentional discharge of oil which reaches bodies of water. Can be controlled by chemical dispersion, combustion, mechanical containment, and/or adsorption. Spills from tanks and pipelines can also occur away from water bodies, contaminating the soil, getting into sewer systems and threatening underground water sources.

Oligotrophic Lakes: Deep clear lakes with few nutrients, little organic matter and a high dissolved-oxygen level.

One-hit Model: Mathematical model based on the biological theory that a single “hit” of some minimum critical amount of a carcinogen at a cellular target such as DNA can initiate an irreversible series of events, eventually leading to a tumor.

On-Scene Coordinator (OSC): The predesignated EPA, Coast Guard, or Department of Defense official who coordinates and directs Superfund removal actions or Clean Water Act oil-or hazardous-spill response actions.

On-Site Facility: A hazardous waste treatment, storage or disposal area that is located on the generating site.

Onboard Controls: Devices placed on vehicles to capture gasoline vapor during refueling and route it to the engines when the vehicle is starting so that it can be efficiently burned.

Opacity: The amount of light obscured by particulate pollution in the air; clear window glass has zero opacity, a brick wall is 100 percent opaque. Opacity is an indicator of changes in performance of particulate control systems.

Open Burning: Uncontrolled fires in an open dump.

Open Dump: An uncovered site used for disposal of waste without environmental controls. (See: dump.)

Operable Unit: Term for each of a number of separate activities undertaken as part of a Superfund site cleanup. A typical operable unit would be removal of drums and tanks from the surface of a site.

Operating Conditions: Conditions specified in a RCRA permit that dictate how an incinerator must operate as it burns different waste types. A trial burn is used to identify operating conditions needed to meet specified performance standards.

Operation And Maintenance: 1. Activities conducted after a Superfund site action is completed to ensure that the action is effective. 2. Actions taken after construction to assure that facilities constructed to treat waste water will be properly operated and maintained to achieve normative efficiency levels and prescribed effluent limitations in an optimum manner. 3. On-going asbestos management plan in a school or other public building, including regular inspections, various methods of maintaining asbestos in place, and removal when necessary.

Optimal Corrosion Control Treatment: The corrosion control treatment that minimizes the lead and copper concentration at users' taps while also insuring that the treatment does not cause the water system to violate any national primary drinking water regulations.

Oral Toxicity: Ability of a pesticide to cause injury when ingested.

Organic: 1. Referring to or derived from living organisms. 2. In chemistry, any compound containing carbon.

Organic Chemicals/Compounds: Animal or plant-produced substances containing mainly carbon, hydrogen, nitrogen, and oxygen.

Organic Matter: Carbonaceous waste contained in plant or animal matter and originating from domestic or industrial sources. Organism: Any form of animal or plant life.

Organophosphates: Pesticides that contain phosphorus; short-lived, but some can be toxic when first applied.

Organotins: Chemical compounds used in anti-foulant paints to protect the hulls of boats and ships, buoys, and pilings from marine organisms such as barnacles.

O**riginal AHERA Inspection/Original Inspection/ Inspection:** Examination of school buildings arranged by Local Education Agencies to identify asbestoscontaining -materials, evaluate their condition, take samples of materials suspected to contain asbestos; performed by EPA-accredited inspectors

Original Generation Point: Where regulated medical or other material first becomes waste.

Osmosis: The passage of a liquid from a weak solution to a more concentrate solution across a semipermeable membrane that allows passage of the solvent (water) but not the dissolved solids.

Outfall: The place where effluent is discharged into receiving waters.

Overburden: Rock and soil cleared away before mining.

Overdraft: The pumping of water from a groundwater basin or aquifer in excess of the supply flowing into the basin; results in a depletion or "mining" of the groundwater in the basin. (See: groundwater mining.)

Overfire Air: Air forced into the top of an incinerator or boiler to fan the flames.

Overflow Rate: One of the guidelines for the design of settling tanks and clarifiers in treatment plants; used by plant operators to determine if tanks and clarifiers are over- or under-loaded.

Overland Flow: A land application technique that cleanses waste water by allowing it to flow over a sloped surface. As the water flows over the surface, contaminants are absorbed and the water is collected at the bottom of the slope for reuse.

Oversized Regulated Medical Waste: Medical waste that is too large for plastic bags or standard containers.

Overturn: One complete cycle of top to bottom mixing of previously stratified water masses. This phenomenon may occur in spring or fall, or after storms, and results in uniformity of chemical and physical properties of water at all depths.

Oxidant: A substance containing oxygen that reacts chemically in air to produce a new substance; the primary ingredient of photochemical smog.

Oxidation: The addition of oxygen that breaks down organic waste or chemicals such as cyanides, phenols, and organic sulfur compounds in sewage by bacterial and chemical means.

Oxidation Pond: A man-made body of water in which waste is consumed by bacteria, used most frequently with other waste-treatment processes; a sewage lagoon.

Oxidation-Reduction Potential: The electric potential required to transfer electrons from one compound or element (the oxidant) to another compound or element (the reductant); used as a qualitative measure of the state of oxidation in water treatment systems,

Oxygenated Fuels: Gasoline which has been blended with alcohols or ethers that contain oxygen in order to reduce carbon monoxide and other emissions.

Oxygenated Solvent: An organic solvent containing oxygen as part of the molecular structure. Alcohols and ketones are oxygenated compounds often used as paint solvents.

Ozone (O3): Found in two layers of the atmosphere, the stratosphere and the troposphere. In the stratosphere (the atmospheric layer 7 to 10 miles or more above the earth's surface) ozone is a natural form of oxygen that provides a protective layer shielding the earth from ultraviolet radiation.In the troposphere (the layer extending up 7 to 10 miles from the earth's surface), ozone is a chemical oxidant and major component of photochemical smog. It can seriously impair the respiratory system and is one of the most widespread of all the criteria pollutants for which the Clean Air Act required EPA to set standards. Ozone in the troposphere is produced through complex chemical reactions of nitrogen oxides, which are among the primary pollutants emitted by combustion sources; hydrocarbons, released into the atmosphere through the combustion, handling and processing of petroleum products; and sunlight.

Ozonation/Ozonator: Application of ozone to water for disinfection or for taste and odor control. The ozonator is the device that does this.

Ozone depletion: Destruction of the stratospheric ozone layer which shields the earth from ultraviolet radiation harmful to life. This destruction of ozone is caused by the breakdown of certain chlorine and/or-bromine containing compounds (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.

Ozone Hole: Thinning break in the stratospheric ozone layer. Designation of amount of such depletion as a "ozone hole" is made when detected amount of depletion exceeds fifty percent. seasonal ozone holes have been observed over both the Antarctic region and the Arctic region and part of canada and the extreme northeastern United States.

Ozone Layer: The protective layer in the atmosphere, about 15 miles above the ground, that absorbs some of the sun's ultraviolet rays, thereby reducing the amount of potentially harmful radiation reaching the earth's surface.

Packaging: The assembly of one or more containers and any other components necessary to assure minimum compliance with a program's storage and shipment packaging requirements. Also, the containers, etc., involved.

Packed Bed Scrubber: An air pollution control device in which emissions pass through alkaline water to neutralize hydrogen chloride gas.

Packed Tower: A pollution control device that forces dirty air through a tower packed with crushed rock or wood chips while liquid is sprayed over the packing material. The pollutants in the air stream either dissolve or chemically react with the liquid.

Palatable Water: Water at a desirable temperature that is free from objectionable tastes, odors, colors, and turbidity.

Pandemic: A Widespread throughout an area, nation or the world.

Parameter: A variable, measurable property whose value is a determinant of the characteristics of a system; e.g., temperature, pressure, and density are parameters of the atmosphere.

Paraquat: A standard herbicide used to kill various types of crops, including marijuana.

Part A Permit, Part B Permit: (See: Interim Permit Status.)

Parshall Flume: Device used to measure the flow of water in an open channel.

Particle Count: Results of a microscopic examination of treated water with a special "particle counter" that classifies suspended particles by number and size.

Participation Rate: Portion of population participating in a recycling program.

Particulates: 1. Fine liquid or solid particles such as dust, smoke, mist, fumes, or smog found in air or emissions. 2, Very small solid suspended in water. They vary in size, shape, density, and electrical charge, can be gathered together by coagulation and flocculation.

Partition Coefficient: Measure of the sorption phenomenon, whereby a pesticide is divided between the soil and water phase; also referred to as adsorption partition coefficient.

Parts Per Billion (ppb)/Parts Per Million (ppm): Units commonly used to express contamination ratios, as in establishing the maximum permissible amount of a contaminant in water, land, or air.

Pathogens: Microorganisms that can cause disease in other organisms or in humans, animals and plants (e.g., bacteria, viruses, or parasites) found in sewage, in runoff from farms or rural areas populated with domestic and wild animals, and in water used for swimming. Fish and shellfish contaminated by pathogens, or the contaminated water itself, can cause serious illness.

Peak Electricity Demand: The maximum electricity used to meet the cooling load of a building or buildings in a given area.

Peak Levels: Levels of airborne pollutant contaminants much higher than average or occurring for short periods of time in response to sudden releases.

Percent Saturation: The amount of a substance that is dissolved in a solution compared to the amount that could be dissolved in it.

Perched Water: Zone of unpressurized water held above the water table by impermeable rock or sediment.

Percolating Water: Water that passes through rocks or soil under the force of gravity.

Percolation: 1. The movement of water downward and radially through subsurface soil layers, continuing downward to groundwater. Can also involve upward movement of the water. 2. Slow seepage of water through a filter.

Performance Data (for incinerators): Information collected, during a trial burn, on concentrations of designated organic compounds and pollutants found in incinerator emissions. Data analysis must show that the incinerator meets performance standards under operating conditions specified in the RCRA permit. (See: trial burn; performance standards.)

Performance Standards: (1) Regulatory requirements limiting the concentrations of designated organic compounds, particulate matter, and hydrogen chloride in emissions from incinerators. (2) Operating standards established by EPA for various permitted pollution control systems, asbestos inspections, and various program operations and maintenance requirements.

Periphyton: Microscopic underwater plants and animals that are firmly attached to solid surfaces such as rocks, logs, pilings, and other structures.

Permeability: The rate at which liquids pass through soil or other materials in a specified direction.

Permissible Dose: The dose of a chemical that may be received by an individual without the expectation of a significantly harmful result.

Permit: An authorization, license, or equivalent control document issued by EPA or an approved state agency to implement the requirements of an environmental regulation; e.g., a permit to operate a wastewater treatment plant or to operate a facility that may generate harmful emissions.

Persistence: Refers to the length of time a compound stays in the environment, once introduced. A compound may persist for less than a second or indefinitely.

Persistent Pesticides: Pesticides that do not break down chemically or break down very slowly and remain in the environment after a growing season.

Personal Air Samples: Air samples taken with a pump is directly attached to the worker with the collecting filter and cassette placed in the worker's breathing zone (required under OSHA asbestos standards and EPA worker protection rule).

Pest: An insect, rodent, nematode, fungus, weed or other form of terrestrial or aquatic plant or animal life that is injurious to health or the environment.

Pesticide Tolerance: The amount of pesticide residue allowed by law to remain in or on a harvested crop. EPA sets these levels well below the point where the compounds might be harmful to consumers.

Pesticide: Substances or mixture there of intended for preventing, destroying, repelling, or mitigating any pest. Also, any substance or mixture intended for use as a plant regulator, defoliant, or desiccant.

Petroleum Derivatives: Chemicals formed when gasoline breaks down in contact with ground water.

pH: An expression of the intensity of the basic or acid condition of a liquid. The pH may range from 0 to 14, where 0 is the most acid, 7 is neutral. Natural waters usually have a pH between 6.5 and 8.5.

Pharmakinetics: The dynamic behavior of chemicals inside biological systems, including uptake, distribution, metabolism, and excretion.

Phenolphthalein Alkalinity: The alkalinity in a water sample measured by the amount of standard acid needed to lower the pH to a level of 8.3 as indicated by the change of color of the phenolphthalein from pink to clear.

Phenols: Organic compounds that are byproducts of petroleum refining, tanning, and textile, dye, and resin manufacturing. Low concentrations cause taste and odor problems in water; higher concentrations can kill aquatic life and humans. Phosphates: Certain chemical compounds containing phosphorus.

Phosphogypsum Piles (stacks): Principal byproduct generated in production of phosphoric acid from phosphate rock. These piles may generate radioactive radon gas.

Phosphorous Plants: Facilities using electric furnaces to produce elemental phosphorous for commercial use, such as high grade phosphoric acid, phosphate -based detergent, and organic chemicals use.

Phosphorus: An essential chemical food element that can contribute to the eutrophication of lakes and other water bodies. Increased phosphorus levels result from discharge of phosphorus-containing materials into surface waters.

Photochemical Oxidants: Air pollutants formed by the action of sunlight on oxides of nitrogen and hydrocarbons.

Photochemical Smog: Air pollution caused by chemical reactions of various pollutants emitted from different sources.

Photosynthesis: The manufacture by plants of carbohydrates and oxygen from carbon dioxide mediated by chlorophyll in the presence if sunlight.

Physical and Chemical Treatment: Processes generally used in large-scale wastewater treatment facilities. Physical processes may include air-stripping or filtration. Chemical treatment includes coagulation, chlorination, or ozonation. The term can also refer to treatment of toxic materials in surface and ground waters, oil spills, and some methods of dealing with hazardous materials on or in the ground.

Phytoplankton: That portion of the plankton community comprised of tiny plants, e.g., algae, diatoms.

Phytotoxic: Harmful to plants.

Picocuries Per Liter pCi/L): A unit of measure for levels of radon gas.

Pilot Tests: Testing a cleanup technology under actual site conditions to identify potential problems prior to full-scale implementation.

Plankton: Tiny plants and animals that live in water.

Plasma-arc Reactor: An incinerator that operates at extremely high temperatures; treats highly toxic wastes that do not burn easily.

Plasmid: A circular piece of DNA that exists apart from the chromosome and replicates independently of it. Bacterial plasmids carry information that renders the bacteria resistant to antibiotics. Plasmids are often used in genetic engineering to carry desired genes into organisms.

Plastics: Non-metallic chemoreactive compounds molded into rigid or pliable construction materials, fabrics, etc.

Plate Tower Scrubber: An air pollution control device that neutralizes hydrogen chloride gas by bubbling alkaline water through holes in a series of metal plates.

Plug Flow: Type of flow that occurs in tanks, basins, or reactors when a slug of water moves through without ever dispersing or mixing with the rest of the water flowing through.

Plugging: Act or process of stopping the flow of water, oil, or gas into or out of a formation through a borehole or well penetrating that formation.

Plume: 1. A visible or measurable discharge of a contaminant from a given point of origin. Can be visible or thermal in water as it extends downstream from the pollution source, or visible in air as, for example, a plume of smoke. 2. The area of radiation leaking from a damaged reactor. 3. Area downwind within which a release could be dangerous for those exposed to leaking fumes.

Plutonium: A radioactive metallic element chemically similar to uranium.

PM-10: A new standard for measuring the amount of solid or liquid matter suspended in the atmosphere, i.e. the amount of particulate matter over 10 micrometers in diameter; smaller PM-10 particles penetrate to the deeper portions of the lung, affecting sensitive population groups such as children and individuals with respiratory ailments.

Point of Disinfectant Application: The point where disinfectant is applied and water downstream of that point is not subject to recontamination by surface water runoff.

Point-of-Entry Treatment Device: A treatment device applied to the drinking water entering a house or building to reduce the contaminants in the water distributed throughout the house or building.

Point-of-Use Treatment Device: Treatment device applied to a single tap to reduce contaminants in the drinking water at that one tap.

Point Source: A stationary location or fixed facility from which pollutants are discharged; any single identifiable source of pollution, e.g., a pipe, ditch, ship, ore pit, factory smokestack.

Pollen: The fertilizing element of flowering plants; background air pollutant.

Pollutant: Generally, any substance introduced into the environment that adversely affects the usefulness of a resource.

Pollution Prevention: The active process of identifying areas, processes, and activities which create excessive waste byproducts for the purpose of substitution, alteration, or elimination of the process to prevent waste generation.

Pollutant Standard Index (PSI): Measure of adverse health effects of air pollution levels in major cities.

Pollution: Generally, the presence of matter or energy whose nature, location, or quantity produces undesired environmental effects. Under the Clean Water Act, for example, the term is defined as the manmade or man-induced alteration of the physical, biological, chemical, and radiological integrity of water.

Polonium: A radioactive element that occurs in pitchblende and other uraniumcontaining ores.

Polyelectrolytes: Synthetic chemicals that help solids to clump during sewage treatment.

Polymer: Basic molecular ingredients in plastic.

Polyvinyl Chloride (PVC): A tough, environmentally indestructible plastic that releases hydrochloric acid when burned.

Population: A group of interbreeding organisms occupying a particular space; the number of humans or other living creatures in a designated area.

Population at Risk: A population subgroup that is more likely to be exposed to a chemical, or is more sensitive to the chemical, than is the general population.

Porosity: Degree to which soil, gravel, sediment or rock is permeated with pores or cavities through which water or air can move.

Postchlorination: Addition of chlorine to plant effluent for disinfectant purposes after the effluent has been treated.

Post-Closure: The time period following the shutdown of a waste management or manufacturing facility; for monitoring purposes, often considered to be 30 years.

Post-Consumer Recycling: Reuse of materials generated from residential and consumer waste, e.g. converting wastepaper from offices into corrugated boxes or newsprint.

Potable Water: Water that is safe for drinking and cooking.

Potentially Responsible Party (PRP): Any individual or company-including owners, operators, transporters or generators-potentially responsible for, or contributing to a spill or other contamination at a Superfund site. Whenever possible, through administrative and legal actions, GPA requires PRPs to clean up hazardous sites they have contaminated.

Potentiation: The effect of one chemical to increase the effect of another chemical.

Potentiometric Surface: The level to which water will rise in cased wells or other cased excavations into aquifers.

Prechlorination: The addition of chlorine at the headworks of a plant prior to other treatment processes. Done mainly for disinfection and control of tastes, odors, and aquatic growths, and to aid in coagulation and settling.

Precipitate: A solid that separates from a solution.

Precipitation: Removal of hazardous solids from liquid waste to permit safe disposal; removal of particles from airborne emissions.

Precipitator: Pollution control device that collects particles from an air stream.

Precursor: In photochemistry, a compound antecedent to a volatile organic compound (VOC). Precursors react in sunlight to form ozone or other photochemical oxidants.

Preliminary Assessment: The process of collecting and reviewing available information about a known or suspected waste site or release.

Prescriptive: Water rights which are acquired by diverting water and putting it to use in accordance with specified procedures, e.g., filing a request with a state agency to use unused water in a stream, river, or lake.

Pressure Sewers: A system of pipes in which water, wastewater, or other liquid is pumped to a higher elevation.

Pretreatment: Processes used to reduce, eliminate, or alter the nature of wastewater pollutants from non-domestic sources before they are discharged into publicly owned treatment works (POTWs).

Prevalent Level Samples: Air samples taken under normal conditions (also known as ambient background samples).

Prevalent Levels: Levels of airborne contaminant occurring under normal conditions.

Prevention of Significant Deterioration (PSD): EPA program in which state and/or federal permits are required in order to restrict emissions from new or modified sources in places where air quality already meets or exceeds primary and secondary ambient air quality standards.

Primacy: Having the primary responsibility for by administrating and enforcing regulations.

Primary Standards: National ambient air quality standards designed to protect human health with "an adequate margin for safety. (See: National Ambient Air Quality Standards, secondary standards.)

Primary Drinking Water Regulation: Applies to public water systems and specifies a contaminant level, which, in the judgment of the EPA Administrator, will not adversely affect human health.

Primary Waste Treatment: First steps in wastewater treatment; screens and sedimentation tanks are used to remove most materials that float or will settle. Primary treatment removes about 30 percent of carbonaceous biochemical oxygen demand from domestic sewage.

Principal Organic Hazardous Constituents (POHCs): Hazardous compounds monitored during an incinerator's trial burn, selected for high concentration in the waste feed and difficulty of combustion.

Prior Appropriation: A doctrine of water law that allocates the rights to use water on a first-come first-serve basis.

Probability of Detection: The likelihood, expressed as a percentage, that a test method will correctly identify a leaking tank.

Process Variable: A physical or chemical quantity which is usually measured and controlled in the operation of a water treatment plant or industrial plant.

Process Verification: Verifying that process raw materials, water usage, waste treatment processes, production rate and other facts relative to quantity and quality of pollutants contained in discharges are substantially described in the permit application and the issued permit.

Process Wastewater: Any water that comes into contact with any raw material, product, byproduct, or waste.

Process Weight: Total weight of all materials, including fuel, used in a manufacturing process; used to calculate the allowable particulate emission rate.

Product Level: The level of a product in a storage tank.

Product Water: Water that has passed through a water treatment plant and is ready to be delivered to the consumers.

Products of Incomplete Combustion (PICs): Organic compounds formed by combustion. Usually generated in small amounts and sometimes toxic, PICs are heataltered versions of the original material fed into the incinerator (e.g., charcoal is a P.C. from burning wood).

Propellant: Liquid in a self-pressurized pesticide product that expels the active ingredient from its container.

Proposed Plan: A plan for a site cleanup that is available to the public for comment.

Proteins: Complex nitrogenous organic compounds of high molecular weight made of amino acids; essential for growth and repair of animal tissue. Many, but not all, proteins are enzymes.

Protocol: A series of formal steps for conducting a test.

Protoplast: A membrane-bound cell from which the outer wall has been partially or completely removed. The term often is applied to plant cells.

Protozoa: One-celled animals that are larger and more complex than bacteria. May cause disease.

Public Comment Period: The time allowed for the public to express its views and concerns regarding an action by EPA (e.g., a Federal Register Notice of proposed rule-making, a public notice of a draft permit, or a Notice of Intent to Deny).

Public Hearing: A formal meeting wherein EPA officials hear the public's views and concerns about an EPA action or proposal. EPA is required to consider such comments when evaluating its actions. Public hearings must be held upon request during the public comment period.

Public Notice: 1. Notification by EPA informing the public of Agency actions such as the issuance of a draft permit or scheduling of a hearing. EPA is required to ensure proper public notice, including publication in newspapers and broadcast over radio stations. 2. In the safe drinking water program, water suppliers are required to publish and broadcast notices when pollution problems are discovered.

Public Water System: A system that provides piped water for human consumption to at least 15 service connections or regularly serves 25 individuals.

Publicly Owned Treatment Works: A waste-treatment works owned by a state, unit of local government, or Indian tribe, usually designed to treat domestic wastewaters.

Pumping Station: Mechanical devices installed in sewer or water systems or other-liquid-carrying pipelines that move the liquids to a higher level.

Putrefaction: Biological decomposition of organic matter; associated with anaerobic conditions.

Putrescible: Able to rot quickly enough to cause odors and attract flies.

Pyrolysis: Decomposition of a chemical by extreme heat.

Quality Assurance/Quality Control: 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.

Quench Tank: A water-filled tank used to cool incinerator residues or hot materials during industrial processes.

Radiation: Transmission of energy through space or any medium. Also known as radiant energy.

Radiation Standards: Regulations that set maximum exposure limits for protection of the public from radioactive materials.

Radio Frequency Radiation: (See Non-ionizing Radiation.)

Radioactive Decay: Spontaneous change in an atom by emission of charged particles and/or gamma rays; also known as radioactive disintegration and radioactivity.

Radioactive Substances: Substances that emit ionizing radiation.

Radioisotopes: Chemical variants of an element with potentially oncogenic, teratogenic, and mutagenic effects on the human body.

Radionuclide: Radioactive particle, man-made or natural, with a distinct atomic weight number. Can have a long life as soil or water pollutants.

Radius of Vulnerability Zone: The maximum distance from the point of release of a hazardous substance in which the airborne concentration could reach the level of concern under specified weather conditions.

Radon: A colorless naturally occurring, radioactive, inert gas formed by radioactive decay of radium atoms in soil or rocks.

Radon Daughters/Radon Progeny: Short-lived radioactive decay products of radon that decay into longer-lived lead isotopes, The daughter isotopes can attach themselves to airborne dust and other particles and, if inhaled, damage to lining of the lung. Also known as radon decay products.

Radon Decay Products: A term used to refer collectively to the immediate products of the radon decay chain. These include Po-218, Pb-214, Bi-214, and Po-214, which have an average combined half-life of about 30 minutes.

Rasp: A machine that grinds waste into a manageable material and helps prevent odor.

Raw Sewage: Untreated wastewater and its contents.

Raw Water: Intake water prior to any treatment or use.

Reaeration: Introduction of air into the lower layers of a reservoir. As the air bubbles form and rise through the water, the oxygen from the air dissolves into the water and replenishes the dissolved oxygen. The rising bubbles also cause the lower waters to rise to the surface where they take on oxygen from the atmosphere.

Reasonable Further Progress: Annual incremental reductions in air pollution emissions as reflected in a State Implementation Plan, that EPA deems sufficient to provide for attainment of the applicable national ambient air quality standard by the statutory deadline.

Reasonable Maximum Exposure: The maximum exposure reasonably expected to occur in a population.

Reasonably Available Control Measures (RACM): A broadly defined term referring to technological and other measures for pollution control.

Reasonably Available Control Technology (RACT): Control technology that is both reasonably available, and both technologically and economically feasible. Usually applied to existing sources in nonattainment areas; in most cases is less stringent than new source performance standards.

Recarbonization: Process in which carbon dioxide is bubbled into water being treated to lower the pH.

Receiving Waters: A river, lake, ocean, stream or other watercourse into which wastewater or treated effluent is discharged.

Recharge: The process by which water is added to a zone of saturation, usually by percolation from the soil surface, e.g., the recharge of an aquifer.

Recharge Area: A land area in which water reaches the zone of saturation from surface infiltration, e.g., where rainwater soaks through the earth to reach an aquifer.

Recharge Rate: The quantity of water per unit of time that replenishes or refills an aquifer.

Reclamation: (In recycling) Restoration of materials found in the waste stream to a beneficial use which may be for purposes other than the original use. Recombinant Bacteria: A microorganism whose genetic makeup has been altered by deliberate introduction of new genetic elements. The offspring of these altered bacteria also contain these new genetic elements, i.e. they "breed true." Recombinant DNA: The new DNA that is formed by combining pieces of DNA from different organisms or cells.

Recommended Maximum Contaminant Level (RMCL): The maximum level of a contaminant in drinking water at which no known or anticipated adverse affect on human health would occur, and that includes an adequate margin of safety. Recommended levels are nonenforceable health goals. (See: maximum contaminant level.)

Reconstructed Source: Facility in which components are replaced to such an extent that the fixed capital cost of the new components exceed 50 percent of the capital cost of constructing a comparable brand-new facility. New-source performance standards may be applied to sources reconstructed after the proposal of the standard if it is technologically and economically feasible to meet the standard.

Record of Decision (ROD): A public document that explains which cleanup alternative(s) will be used at National Priorities List sites where, under CERCLA, Trust Funds pay for the cleanup.

Recovery Rate: Percentage of usable recycled materials that have been removed from the total amount of municipal solid waste generated in a specific area or by a specific business.

Recycle/Reuse: Minimizing waste generation by recovering and reprocessing usable products that might otherwise become waste (.i.e. recycling of aluminum cans, paper, and bottles, etc.).

Red Bag Waste: (See: infectious waste.)

Red Border: An EPA document undergoing review before being submitted for final management decision-making.

Red Tide: A proliferation of a marine plankton toxic and often fatal to fish, perhaps stimulated by the addition of nutrients. A tide can be red, green, or brown, depending on the coloration of the plankton.

Reduction: The addition of hydrogen, removal of oxygen, or addition of electrons to an element or compound.

Reentry Interval: The period of time immediately following the application of a pesticide during which unprotected workers should not enter a field.

Reference Dose (RfD): The concentration of a chemical known to cause health problems; also be referred to as the ADI, or acceptable daily intake.

Reformulated Gasoline: Gasoline with a different composition from conventional gasoline (e.g., lower aromatics content) that cuts air pollutants.

Refueling Emissions: Emissions released during vehicle refueling.

Refuse Reclamation: Conversion of solid waste into useful products, e.g., composting organic wastes to make soil conditioners or separating aluminum and other metals for recycling.

Refuse: (See: solid waste.)

Regeneration: Manipulation of cells to cause them to develop into whole plants.

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 significant pollution incident such as an oil spill, major chemical release, or a Superfund response.

Registrant: Any manufacturer or formulator who obtains registration for a pesticide active ingredient or product.

Registration: Formal listing with EPA of a new pesticide before it can be sold or distributed. Under the Federal Insecticide, Fungicide, and Rodenticide Act. EPA is responsible for registration (pre-market licensing) of pesticides on the basis of data demonstrating no unreasonable adverse effects on human health or the environment when applied according to approved label direc-

tions.

Registration Standards: Published documents which include summary reviews of the data available on a pesticide's active ingredient, data gaps, and the Agency's existing regulatory position on the pesticide.

Regulated Asbestos-Containing Material (RACM): Friable asbestos material or nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading or has crumbled, or been pulverized or reduced to powder in the course of demolition or renovation operations.

Regulated Medical Waste: Under the Medical Waste Tracking Act of 1988, any solid waste generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals. Included are cultures and stocks of infectious agents; human blood and blood products; human pathological body wastes from surgery and autopsy; contaminated animal carcasses from medical research; waste from patients with communicable diseases; and all used sharp implements, such as needles and scalpels, etc., and certain unused sharps. (See; treated medical waste; untreated medical waste; destroyed medical waste.)

Release: Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of a hazardous or toxic chemical or extremely hazardous substance.

Remedial Action (RA): The actual construction or implementation phase of a Superfund site cleanup that follows remedial design.

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: An in-depth study designed to gather data needed to determine the nature and extent of contamination at a Superfund site; establish site cleanup criteria; identify preliminary alternatives for remedial action; and support technical and cost analyses of alternatives. The remedial investigation is usually done with the feasibility study. Together they are usually referred to as the "RI/FS".

Remedial Project Manager (RPM): The EPA or state official responsible for overseeing on-site remedial action.

Remedial Response: 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.

Remediation: 1. Cleanup or other methods used to remove or contain a toxic spill or hazardous materials from a Superfund site; 2. for the Asbestos Hazard Emergency Response program, abatement methods including evaluation, repair, enclosure, encapsulation, or removal of greater than 3 linear feet or square feet of asbestos-containing materials from a building.

Remote Sensing: The collection and interpretation of information about an object without physical contact with the object; e.g., satellite imaging and aerial photograph.

Removal Action: Short-term immediate actions taken to address releases of hazardous substances that require expedited response. (See: cleanup.)

Repeat Compliance Period: Any subsequent compliance period after the initial one.

Reportable Quantity (RQ): Quantity of a hazardous substance that triggers reports under CERCLA. If a substance exceeds its RQ, the release must be reported to the National Response Center, the SERC, and community emergency coordinators for areas likely to be affected.

Repowering: Rebuilding and replacing major components of a power plant instead of building a new one.

Representative Sample: A portion of material or water that is as nearly identical in content and consistency as possible to that in the larger body of material or water being sampled.

Reregistration: The reevaluation and relicensing of existing pesticides originally registered prior to current scientific and regulatory standards. EPA reregisters pesticides through its Registration Standards Program.

Reserve Capacity: Extra treatment capacity built into solid waste and wastewater treatment plants and inter-

ceptor sewers to accommodate flow increases due to future population growth.

Reservoir: Any natural or artificial holding area used to store, regulate, or control water.

Residual: Amount of a pollutant remaining in the environment after a natural or technological process has taken place, e.g., the sludge remaining after initial wastewater treatment, or particulates remaining in air after it passes through a scrubbing or other process. Residual Risk: The extent of health risk from air pollutants remaining after application of the Maximum Achievable Control Technology (MACT). Residue; The dry solids remaining after the evaporation of a sample of water or sludge.

Resistance: For plants and animals, the ability to withstand poor environmental conditions or attacks by chemicals or disease. May be inborn or acquired.

Resource Recovery: The process of obtaining matter or energy from materials formerly discarded.

Response Action: 1. Generic term for actions taken in response to actual or potential health-threatening environmental events such as spills, sudden releases, and asbestos abatement/management problems; 2. A CERCLA-authorized action involving either a short-term removal action or a long-term removal response. This may include but is not limited to: removing hazardous materials from a site to an EPA-approved hazardous waste facility for treatment, containment or treating the waste on-site, identifying and removing the sources of ground-water contamination and halting further migration of contaminants; 3. Any of the following actions taken in school buildings in response to AHERA to reduce the risk of exposure to asbestos: removal, encapsulation, enclosure, repair, and operations and maintenance. (See: cleanup)

Responsiveness Summary: A summary of oral and/or written public comments received by EPA during a comment period on key EPA documents, and EPA's response to those comments.

Restoration: Measures taken to return a site to pre-violation conditions.

Restricted Use: A pesticide may be classified (under FIFRA regulations) for restricted use, requiring special handling because of its toxicity, and, if so, it may be applied only by trained, certified applicators or those under their direct supervision.

Restriction Enzymes: Enzymes that recognize specific regions of a long DNA molecule and cut it at those points.

Retrofit: Addition of a pollution control device on an existing facility without making major changes to the generating plant.

Reuse: Using a product or component of municipal solid waste in its original form more than once, e.g., refilling a glass bottle that has been returned or using a coffee can to hold nuts and bolts.

Reverse Osmosis: A treatment process used in water systems by adding pressure to force water through a semi-permeable membrane. Reverse osmosis removes most drinking water contaminants. Also used in wastewater treatment. Largescale reverse osmosis plants are being developed.

Reversible Effect: An effect which is not permanent; especially adverse effects which diminish when exposure to a toxic chemical is ceased.

Ribonucleic Acid (RNA): A molecule that carries the genetic message from DNA to a cellular protein-producing mechanisms.

Rill: A small channel eroded into the soil surface by runoff; can be easily smoothed out obliterated by normal tillage.

Ringlemann Chart: A series of shaded illustrations used to measure the opacity of air pollution emissions, ranging from light grey through black; used to set and enforce emissions standards.

Riparian Habitat: Areas adjacent to rivers and streams with a high density, diversity, and productivity of plant and animal species relative to nearby uplands.

Riparian Rights: Entitlement of a land owner to certain uses of water on or bordering his property, including the right to prevent diversion or misuse of upstream waters. Generally a matter of state law.

Risk: A measure of the probability that damage to life, health, property, and/or the environment will occur as a result of a given hazard.

Risk Assessment: Qualitative and quantitative evaluation of the risk posed to human health and/or the environment by the actual or potential presence and/or use of specific pollutants.

Risk Based Targeting: The direction of resources to those areas that have been identified as having the highest potential or actual adverse effects on human health and/or the environment.

Risk Characterization: This last step in the risk assessment process characterizes the potential for adverse health effects and evaluates the uncertainty involved.

Risk Communication: The exchange of information about health or environmental risks among risk assessors and managers, the general public, news media, interest groups, etc.

Risk Estimate: A description of the probability that organisms exposed to a specific dose of a chemical or other pollutant will develop an adverse response (e.g., cancer)

Risk Factor: Characteristic (e.g., race, sex, age, obesity) or variable (e.g., smoking, occupational exposure level) associated with increased probability of a toxic effect.

Risk Management: The process of evaluating and selecting alternative regulatory and non-regulatory responses to risk. The selection process necessarily requires the consideration of legal, economic, and behavioral factors.

Risk Specific Dose: The dose associated with a specified risk level.

River Basin: The land area drained by a river and its tributaries.

Rodenticide: A chemical or agent used to destroy rats or other rodent pests, or to prevent them from damaging food, crops, etc.

Rotary Kiln Incinerator: An incinerator with a rotating combustion chamber that keeps waste moving, thereby allowing it to vaporize for easier burning.

Rough Fish: Fish not prized for eating, such as gar and suckers. Most are more tolerant of changing environmental conditions than game species.

Route of Exposure: The avenue by which a chemical comes into contact with an organism (e.g., inhalation, ingestion, dermal contact, injection.)

Rubbish: Solid waste, excluding food waste and ashes, from homes, institutions, and work-places. Run-Off: That part of precipitation, snow melt, or irrigation water that runs off the land into streams or other surface-water. It can carry pollutants from the air and land into receiving waters. Running Losses: Evaporation of motor vehicle fuels from the fuel tank while the vehicle is in use.

Sacrificial Anode: An easily corroded material deliberately installed in a pipe or take to give it up (sacrifice) to corrosion while the rest of the water supply facility remains relatively corrosion free.

Safe: Condition of exposure under which there is a practical certainty that no harm will result to exposed individuals.

Safener: A chemical added to a pesticide to keep it from injuring plants.

Safe Water: Water that does not contain harmful bacteria, toxic materials, or chemicals and is considered safe for drinking even though it may have taste, and odor, color and certain mineral problems.

Safe Yield: The annual amount of water that can be taken from a source or supply over a period of years without depleting that source beyond its ability to be replenished naturally in “wet years”.

Salt Water Intrusion: The invasion of fresh surface or ground water by salt water. If it comes from the ocean it may be called sea water intrusion.

Salts: Minerals that water picks up as it passes through the air, over and under the ground, or from households and industry.

Salvage: The utilization of waste materials.

Sanctions: Actions taken by the federal government for failure to plan or implement a State Improvement Plan (SIP). Such action may be include withholding of highway funds and a ban on construction of new sources of potential pollution.

Sand Filters: Devices that remove some suspended solids from sewage. Air and bacteria decompose additional wastes filtering through the sand so that cleaner water drains from the bed.

Sanitary Landfill: (See: landfills.)

Sanitary Sewers: Underground pipes that carry off only domestic or industrial waste, not storm water. Sanitary Survey: An on-site review of the water sources, facilities, equipment, operation and maintenance of a public water system to evaluate the adequacy of those elements for producing and distributing safe drinking water. Sanitary Water (Also known as gray water): Water discharged from sinks, showers, kitchens, or other nonindustrial operations, but not from commodes. Sanitation: Control of physical factors in the human environment that could harm development, health, or survival.

Saprophytes: Organisms living on dead or decaying organic matter that help natural decomposition of organic matter in water.

Saturated Zone: The area below the water table where all open spaces are filled with water.

Saturation: The condition of a liquid (water) when it has taken into solution the maximum possible quantity of a given substance at a given temperature and pressure.

Scrap: Materials discarded from manufacturing operations that may be suitable for reprocessing.

Screening: Use of screens to remove coarse floating and suspended solids from sewage.

Science Advisory Board (SAB): A group of external scientists who advise EPA on science and policy.

Scrubber: An air pollution device that uses a spray of water or reactant or a dry process to trap pollutants in emissions.

Secondary Drinking Water Regulations: Non-enforceable regulations applying to public water systems and specifying the maximum contamination levels that, in the judgment of EPA, are required to protect the public welfare. These regulations apply to any contaminants that may adversely affect the odor or appearance of such water and consequently may cause people served by the system to discontinue its use.

Secondary Materials: Materials that have been manufactured and used at least once and are to be used again.

Secondary Standards: National ambient air quality standards designed to protect welfare, including effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to property, transportation hazards, effects on economic values, and on personal comfort and well-being.

Secondary Treatment: The second step in most publicly owned waste treatment systems in which bacteria consume the organic parts of the waste. It is accomplished by bringing together waste, bacteria, and oxygen in trickling filters or in the activated sludge process. This treatment removes floating and settleable solids and about 90 percent of the oxygen-demanding substances and suspended solids. Disinfection is the final stage of secondary treatment. (See: primary, tertiary treatment.)

Secure Chemical Landfill: (See: landfills.)

Secure Maximum Contaminant Level: Maximum permissible level of a contaminant in water delivered to the free flowing outlet of the ultimate user, or of contamination resulting from corrosion of piping and plumbing caused by water quality.

Sediment Yield: The quantity of sediment arriving at a specific location.

Sedimentation Tanks: Wastewater tanks in which floating wastes are skimmed off and settled solids are removed for disposal.

Sedimentation: Letting solids settle out of wastewater by gravity during treatment.

Sediments: Soil, sand, and minerals washed from land into water, usually after rain. They pile up in reservoirs, rivers and harbors, destroying fish and wildlife habitat, and clouding the water so that sunlight cannot reach aquatic plants. Careless farming, mining, and building activities will expose sediment materials, allowing them to wash off the land after rainfall.

Seed Protectant: A chemical applied before planting to protect seeds and seedlings from disease or insects.

Seepage: Percolation of water through the soil from unlined canals, ditches, laterals, watercourses, or water storage facilities.

Selective Pesticide: A chemical designed to affect only certain types of pests, leaving other plants and animals unharmed.

Semi-Confined Aquifer: An aquifer partially confined by soil layers of low permeability through which recharge and discharge can still occur.

Senescence: The aging process. Sometimes used to describe lakes or other bodies of water in advanced stages of eutrophication.

Septic System: An onsite system designed to treat and dispose of domestic sewage. A typical septic system consists of a tank that receives waste from a residence or business and a system of tile lines or a pit for disposal of the liquid effluent (sludge) that remains after decomposition of the solids by bacteria in the tank and must be pumped out periodically.

Septic Tank: An underground storage tank for wastes from homes not connected to a sewer line. Waste goes directly from the home to the tank. (See: septic system)

Service Connector: The pipe that carries tap water from a public water main to a building.

Service Line Sample: A one-liter sample of water collected according to federal regulations that has been standing for at least 6 hours in a service pipeline.

Service Pipe: The pipeline extending from the water main to the building served or to the consumer's system.

Settleable Solids: Material heavy enough to sink to the bottom of a wastewater treatment tank.

Settling Chamber: A series of screens placed in the way of flue gases to slow the stream of air, thus helping gravity to pull particles into a collection device.

Settling Tank: A holding area for wastewater, where heavier particles sink to the bottom for removal and disposal.

7Q10: Seven-day, consecutive low flow with a ten year return frequency; the lowest stream flow for seven consecutive days that would be expected to occur once in ten years.

Sewage: The waste and wastewater produced by residential and commercial sources and discharged into sewers.

Sewage Lagoon: (See: lagoon.)

Sewage Sludge: Sludge produced at a Publicly Owned Treatment Works, the disposal of which is regulated under the Clean Water Act.

Sewer: A channel or conduit that carries wastewater and storm-water runoff from the source to a treatment plant or receiving stream. “Sanitary” sewers carry household, industrial, and commercial waste. “Storm” sewers carry runoff from rain or snow. “Combined” sewers handle both.

Sewerage: The entire system of sewage collection, treatment, and disposal.

Sharps: Hypodermic needles, syringes (with or without the attached needle) pasteur pipettes, scalpel blades, blood vials, needles with attached tubing, and culture dishes used in animal or human patient care or treatment, or in medical, research or industrial laboratories. Also included are other types of broken or unbroken glassware that were in contact with infectious agents, such as used slides and cover slips, and unused hypodermic and suture needles, syringes, and scalpel blades.

Shock Load: The arrival at a water treatment plant of raw water containing unusual amounts of algae, colloidal mater, color, suspended solids, turbidity, ore other pollutants.

Short-Circuiting: When some of the water in tanks or basins flows faster than the rest; usually undesirable since it may result in shorter contact, reaction, or settling times in comparison with the calculated or presumed detention times.

Signal: The volume or product-level change produced by a leak in a tank.

Signal Words: The words used on a pesticide label-Danger, Warning, Caution-to indicate level of toxicity.

Significant Deterioration: Pollution resulting from a new source in previously “clean” areas. (See: prevention of significant deterioration.)

Significant Municipal Facilities: Those publicly owned sewage treatment plants that discharge a million gallons per day or more and are therefore considered by states to have the potential for to substantially effect the quality of receiving waters.

Significant Non-Compliance: (See Significant Violations.)

Significant Violations: Violations by point source dischargers of sufficient magnitude or duration to be a regulatory priority.

Silt: Sedimentary materials composed of fine or intermediate sized mineral particles.

Silviculture: Management of forest land for timber.

Sink: Place in the environment where a compound or material collects.

Sinking: Controlling oil spills by using an agent to trap the oil and sink it to the bottom of the body of water where the agent and the oil are biodegraded.

SIP Call: EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required national air quality standards within the statutory deadline. A SIP Revision is a portion of an SIP altered at the request of EPA or on a state’s initiative.

Site: An area or place within the jurisdiction of the EPA and/or a state.

Site Assessment Program: A means of evaluating hazardous waste sites through preliminary assessments and site inspections to develop a Hazard Ranking System score.

Site Inspection: The collection of information from a Superfund site to determine the extent and severity of hazards posed by the site. It follows and is more extensive than a preliminary assessment. The purpose is to gather information necessary to score the site, using the Hazard Ranking System, and to determine if it presents an immediate threat requiring prompt removal.

Site Safety Plan: A cruciaL element in all removal actions, it includes information on equipment being used, precautions to be taken, and steps to take in the event of an on-site emergency.

Siting: The process of choosing a location for a facility.

Skimming: Using a machine to remove oil or scum from the surface of the water.

Slow Sand Filtration: Passage of raw water through a bed of sand at low velocity, resulting in substantial removal of chemical and biological contaminants.

Sludge: A semi-solid residue from any of a number of air or water treatment processes; can be a hazardous waste.

Sludge Digester: Tank in which complex organic substances like sewage sludges are biologically dredged. During these reactions, energy is released and much of the sewage is converted to methane, carbon dioxide, and water.

Slurry: A watery mixture of insoluble matter resulting from some pollution control techniques.

Small Quantity Generator (SQG-sometimes referred to as "Squeegee"): Persons or enterprises that produce 220-2200 pounds per month of hazardous waste; are required to keep more records than conditionally exempt generators. The largest category of hazardous waste generators, SQGs include automotive shops, dry cleaners, photographic developers, and a host of other small businesses. (See: conditionally exempt generators).

Smelter: A facility that melts or fuses ore, often with an accompanying chemical change, to separate its metal content. Emissions cause pollution. "Smelting" is the process involved.

Smog: Air pollution associated with oxidants. (See: photochemical smog.)

Smoke: Particles suspended in air after incomplete combustion.

Soft Detergents: Cleaning agents that break down in nature.

Soft Water: Any water that does not contain a significant amount of dissolved minerals such as salts of calcium or magnesium.

Soil Adsorption Field: A sub-surface area containing a trench or bed with clean stones and a system of piping through which treated sewage may seep into the surrounding soil for further treatment and disposal. Soil and Water Conservation Practices: Control measures consisting of managerial, vegetative, and structural practices to reduce the loss of soil and water.

Soil Conditioner: An organic material like humus or compost that helps soil absorb water, build a bacterial community, and take up mineral nutrients.

Soil Erodibility: A measure of the soil's susceptibility to raindrop impact, runoff, and other erosional processes. .

Soil Gas: Gaseous elements and compounds in the small spaces between particles of the earth and soil. Such gases can be moved or driven out under pressure.

Soil Sterilant: A chemical that temporarily or permanently prevents the growth of all plants and animals. depending on the chemical.

Solder: Metallic compound used to seal joints between pipes. Until recently, most solder contained 50 percent lead. Use of lead solder containing more than 0.2 percent lead is now prohibited for pipes carrying drinking water.

Sole-Source Aquifer: An aquifer that supplies 50-percent or more of the drinking water of an area.

Solid Waste: Non-liquid, non-soluble materials ranging from municipal garbage to industrial wastes that contain complex and sometimes hazardous substances. Solid wastes also include sewage sludge, agricultural refuse, demolition wastes, and mining residues. Technically, solid waste also refers to liquids and gases in containers.

Solid Waste Disposal: The final placement of refuse that is not salvaged or recycled.

Solid Waste Management: Supervised handling of waste materials from their source through recovery processes to disposal.

Solidification and Stabilization: Removal of wastewater from a waste or changing it chemically to make it less permeable and susceptible to transport by water.

Soot: Carbon dust formed by incomplete combustion.

Sorption: The action of soaking up or attracting substances; process used in many pollution control systems.

Source Reduction: Reducing the amount of materials entering the waste stream by redesigning products or patterns of production or consumption (e.g., using returnable beverage containers). Synonymous with waste reduction.

Source Separation: Segregating various wastes at the point of generation (e.- g., separation of paper, metal and glass from other wastes to make recycling simpler and more efficient.)

Special Review: Formerly known as Rebuttable Presumption Against Registration (RPAR), this is the regulatory process through which existing pesticides suspected of posing unreasonable risks to human health, non-target organisms, or the environment are referred for review by EPA. Such review requires an intensive risk/benefit analysis with opportunity for public comment. If risk is found to outweigh social and economic benefits, regulatory actions ranging from label revisions and use-restriction to cancellation or suspended registration can be initiated.

Special Waste: Items such as household hazardous waste, bulky wastes (refrigerators, pieces of furniture, etc.) tires, and used oil.

Species: A reproductively isolated aggregate of interbreeding organisms.

Specific Conductance: Rapid method of estimating the dissolved-solid content of a water supply by testing the capacity of the water to carry an electrical current.

Specific Yield: The amount of water that a unit volume of saturated permeable rock will yield when drained by gravity.

Spill Prevention Control and Countermeasures Plan (SPCP): Plan covering the release of hazardous substances as defined in the Clean Water Act.

Spoil: Dirt or rock removed from its original location-destroying the composition of the soil in the process-as in strip-mining, dredging, or construction.

Sprawl: Unplanned development of open land.

Spray Tower Scrubber: A device that sprays alkaline water into a chamber where acid gases present to aid in the neutralizing of the gas.

Spring: Ground water seeping out of the earth where the water table intersects the ground surface.

Spring Melt/Thaw: The process by which warm temperatures melt winter snow and ice. Because various forms of acid deposition may have been stored in the frozen water, the melt can result in abnormally large amounts of acidity entering streams and rivers, sometimes causing fish kills.

Stable Air: A motionless mass of air that holds instead of dispersing pollutants.

Stabilization: Conversion of the active organic matter in sludge into inert, harmless material.

Stabilization Ponds: (See: lagoon.)

Stack: A chimney, smokestack, or vertical pipe that discharges used air.

Stack Effect: Air, as in a chimney, that moves upward because it is warmer than the ambient atmosphere.

Stack Gas: (See: flue gas.)

Stage II Controls: Systems placed on service station gasoline pumps to control and capture gasoline vapors during refuelling.

Stagnation: Lack of motion in a mass of air or water that holds pollutants in place.

Standard Sample: The part of finished drinking water that is examined for the presence of coliform bacteria.

Standards: Norms that impose limits on the amount of pollutants or emissions produced. EPA establishes minimum standards, but states are allowed to be stricter.

Start of a Response Action: The point in time when there is a guarantee or set-aside of funding either by EPA, other federal agencies, states or Principal Responsible Parties in order to begin response actions at a Superfund site.

State Emergency Response Commission (SERC): Commission appointed by each state governor according to the requirements of SARA Title III. The SERCs designate emergency planning districts, appoint local emergency planning committees, and supervise and coordinate their activities.

State Implementation Plans (SIP): EPAapproved state plans for the establishment, regulation, and enforcement of air pollution standards. Static Water Depth: The vertical distance from the centerline of the pump discharge down to the surface level of the free pool while no water is being drawn rom the pool or water table.

Static Water Level: 1. Elevation or level of the water table in a well when the pump is not operating. 2. The level or elevation to which water would rise in a tube connected to an artesian aquifer, or basin, in a conduit under pressure.

Stationary Source: A fixed-site producer of pollution, mainly power plants and other facilities using industrial combustion processes.

Sterilization: The removal or destruction of all microorganisms, including pathogenic and other bacteria, vegetative forms and spores.

Storage: Temporary holding of waste pending treatment or disposal, as in containers, tanks, waste piles, and surface impoundments.

Storm Sewer: A system of pipes (separate from sanitary sewers) that carries only water runoff from buildings and land surfaces.

Stratification: Separating into layers.

Stratosphere: The portion of the atmosphere 10-to-25 miles above the earth's surface.

Strip-Cropping: Growing crops in a systematic arrangement of strips or bands that serve as barriers to wind and water erosion.

Strip-Mining: A process that uses machines to scrape soil or rock away from mineral deposits just under the earth's surface.

Structural Deformation: Distortion in walls of a tank after liquid has been added or removed.

Subchronic: Of intermediate duration, usually used to describe studies or levels of exposure between 5 and 90 days.

Submerged Aquatic Vegetation: Vegetation such as sea grasses that cannot withstand excessive drying and therefore live with their leaves at or below the water surface; an important habitat for young fish and other aquatic organisms.

Sulfur Dioxide (SO2): A pungent, colorless, gaseous pollutant formed primarily by the combustion of fossil fuels.

Sump: A pit or tank that catches liquid runoff for drainage or disposal.

Superchlorination: Chlorination with doses that are deliberately selected to produce free or combined residuals so large as to require dechlorination.

Supercritical Water: A type of thermal treatment using moderate temperatures and high pressures to enhance the ability of water to break down large organic molecules into smaller, less toxic ones. Oxygen injected during this process combines with simple organic compounds to form carbon dioxide and water.

Superfund: The program operated under the legislative authority of CERCLA and SARA that funds and carries out EPA solid waste emergency and long-term removal and remedial activities. These activities include establishing the National Priorities List, investigating sites for inclusion on the list, determining their priority, and conducting and/or supervising the cleanup and other remedial actions.

Superfund Innovative Technology Evaluation: EPA program to promote development and use of innovative treatment technologies in Superfund site cleanups.

Supplier of Water: Any person who owns or operates a public water system.

Surface Impoundment: Treatment, storage, or disposal of liquid hazardous wastes in ponds.

Surface Runoff: Precipitation, snow melt, or irrigation in excess of what can infiltrate the soil surface and be stored in small surface depressions; a major transporter of nonpoint source pollutants.

Surface Uranium Mines: Strip mining operations for removal of uraniumbearing ore.

Surface Water: All water naturally open to the atmosphere (rivers, lakes, reservoirs, ponds, streams, impoundments, seas, estuaries, etc.) and all springs, wells, or other collectors directly influenced by surface water.

Surfacing ACM: Asbestos-containing material that is sprayed or troweled on or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members.

Surfacing Material: Material sprayed or troweled onto structural members (beams, columns, or decking) for fire protection; or on ceilings or walls for fireproofing, acoustical or decorative purposes. Includes textured plaster, and other textured wall and ceiling surfaces.

Surfactant: A detergent compound that promotes lathering.

Surveillance System: A series of monitoring devices designed to check on environmental conditions.

Suspect Material: Building material suspected of containing asbestos, e.g., surfacing material, floor tile, ceiling tile, thermal system insulation, and miscellaneous other materials.

Suspended Loads: Sediment particles maintained in the water column by turbulence and carried with the flow of water.

Suspended Solids: Small particles of solid pollutants that float on the surface of, or are suspended in, sewage or other liquids. They resist removal by conventional means.

Suspension: Suspending the use of a pesticide when EPA deems it necessary to prevent an imminent hazard resulting from its continued use. An emergency suspension takes effect immediately; under an ordinary suspension a registrant can request a hearing before the suspension goes into effect. Such a hearing process might take six months.

Suspension Culture: Cells growing in a liquid nutrient medium.

Swamp: A type of wetland dominated by woody vegetation but without appreciable peat deposits. Swamps may be fresh or salt water and tidal or non-tidal. (See: wetlands.)

Synergism: An interaction of two or more chemicals which results in an effect that is greater than the sum of their effects taken independently.

Synthetic Organic Chemicals (SOCs): Man-made organic chemicals. Some SOCs are volatile, others tend to stay dissolved in water instead of evaporating.

System With a Single Service Connection: A system that supplies drinking water to consumers via a single service line.

Systemic Pesticide: A chemical absorbed by an organism that makes the

Tailings: Residue of raw material or waste separated out during the processing of crops or mineral ores.

Tailpipe Standards: Emissions limitations applicable to engine exhausts from mobile sources.

Tail Water: The runoff of irrigation water from the lower end of an irrigated field.

Tampering: Adjusting, negating, or removing pollution control equipment on a motor vehicle.

Technical Assistance Grant (TAG): As part of the Superfund program, Technical Assistance Grants of up to $50,000 are provided to citizens' groups to obtain assistance in interpreting information related to cleanups at Superfund sites or those proposed for the National Priorities List. Grants are used by such groups to hire technical advisors to help them understand the site-related technical information for the duration of response activities.

Technology-Based Limitations: Industry-specific effluent limitations applied to a discharge when it will not cause a violation of water quality standards at low stream flows. Usually applied to discharges into large rivers.

Technology-Based Standards: Effluent limitations applicable to direct and indirect sources which are developed on a category-by-category basis using statutory factors, not including water-quality effects.

Terracing: Dikes built along the contour of sloping farm land that hold runoff and sediment to reduce erosion.

Tertiary Treatment: Advanced cleaning of wastewater that goes beyond the secondary or biological stage, removing nutrients such as phosphorus, nitrogen, and most BOD and suspended solids.

Tetratogenesis: The introduction of nonhereditary birth defects in a developing fetus by exogenous factors such as physical or chemical agents acting in the womb to interfere with normal embryonic development.

Therapeutic Index: The ratio of the dose required to produce toxic or lethal effects to dose required to produce nonadverse or therapeutic response.

Thermal Pollution: Discharge of heated water from industrial processes that can kill or injure aquatic organisms.

Thermal Stratification: The formation of layers of different temperatures in a lake or reservoir.

Thermal System Insulation (TSI): Asbestos-containing material applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain or water condensation.

Thermal Treatment: Use of elevated temperatures to treat hazardous wastes. (See: incineration; pyrolysis.)

Thermocline: The middle layer of a thermally stratified lake or reservoir. In this layer there is a rapid decrease in temperature with depth. Also called the metalimnion.

Threshold: The lowest dose of a chemical at which a specified measurable effect is observed and below which it is not observed.

Threshold Level: Time-weighted average pollutant concentration values, exposure beyond which is likely to adversely affect human health. (See: environmental exposure.)

Threshold Limit Value (TLV): The concentration of an airborne substance that an average person can be repeatedly exposed to without adverse effects. TLVs may be expressed in three ways: TLV-TWA-Time weighted average, based on an allowable exposure averaged over a normal 8-hour workday or 40-hour workweek; TLV-STEL-Short-term exposure limit or maximum concentration for a brief specified period of time, depending on a specific chemical (TWA must still be met); and TLV-C-Ceiling Exposure Limit or maximum exposure concentration not to be exceeded under any circumstances. (TWA must still be met.)

Threshold Odor: (See: odor threshold.)

Threshold Planning Quantity: A quantity designated for each chemical on the list of extremely hazardous substances that triggers notification by facilities to the State Emergency Response Commission that such facilities are subject to emergency planning requirements under SARA Title III.

Tidal Marsh: Low, flat marshlands traversed by channels and tidal hollows, subject to tidal inundation; normally, the only vegetation present is salttolerant bushes and grasses. (See: wetlands.)

Tillage: Plowing, seedbed preparation, and cultivation practices.

Total Suspended Particles: A method of monitoring particulate matter by total weight.

Time-weighted Average (TWA): In air sampling, the average air concentration of contaminants during a given period.

Tolerances: Permissible residue levels for pesticides in raw agricultural produce and processed foods. Whenever a pesticide is registered for use on a food or a feed crop, a tolerance (or exemption from the tolerance requirement) must be established. EPA establishes the tolerance levels, which are enforced by the Food and Drug Administration and the Department of Agriculture.

Tonnage: The amount of waste that a landfill accepts, usually expressed in tons per month. The rate at which a landfill accepts waste is limited by the landfill's permit.

Topography: The physical features of a surface area including relative elevations and the position of natural and man-made features.

Total Dissolved Phosphorous: The total phosphorous content o all material that will pass through a filter, which is determined as orthophosphate without prior digestion or hydrolysis. Also called soluble P. or ortho P.

Total Dissolved Solids (TDS): All material that passes the standard glass river filter; now called total filtrable reside. Term is used to reflect salinity. Total Suspended Particles: A method of monitoring particulate matter by total weight.

Total Suspended Solids (TSS): A measure of the suspended solids in wastewater, effluent, or water bodies, determined by tests for "total suspended nonfilterable solids." (See: suspended solids.)

Toxaphene: Chemical that causes adverse health effects in domestic water supplies and is toxic to freshwater and marine aquatic life.

Toxic Chemical Release Form: Information form required of facilities that manufacture, process, or use (in quantities above a specific amount) chemicals listed under SARA Title III.

Toxic Chemical: Any chemical listed in EPA rules as "Toxic Chemicals Subject to Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986."

Toxic Chemical Use Substitution: Replacing toxic chemicals with less harmful chemicals in industrial processes.

Toxic Cloud: Airborne plume of gases, vapors, fumes, or aerosols containing toxic materials.

Toxic Pollutants: Materials that cause death, disease, or birth defects in organisms that ingest or absorb them. The quantities and exposures necessary to cause these effects can vary widely.

Toxic Release Inventory: Database of toxic releases in the United States compiled from SARA Title III section 313 reports.

Toxic Substance: A chemical or mixture that may present an unreasonable risk of injury to health or the environment.

Toxic Waste: A waste that can produce injury if inhaled, swallowed, or absorbed through the skin.

Toxicant: A harmful substance or agent that may injure an exposed organism.

Toxicity Assessment: Characterization of the toxicological properties and effects of a chemical, with special emphasis on establishment of doseresponse characteristics.

Toxicity Testing: Biological testing (usually with an invertebrate, fish, or small mammal) to determine the adverse effects of a compound or effluent.

Toxicological Profile: An examination, summary, and interpretation of a hazardous substance to determine levels of exposure and associated health effects.

Transboundary Pollutants: Air pollution that travels from one jurisdiction to another, often crossing state or international boundaries.

Transient Water System: A non-community water system that does not serve 25 of the same nonresidents per day for more than six months per year.

Transmission Lines: Pipelines that transport raw water from its source to a water treatment, then to the distribution grid system.

Transmissivity: The ability of an aquifer to transmit water.

Transpiration: The process by which water vapor is lost to the atmosphere from living plants. The term can also be applied to the quantity of water thus dissipated.

Transportation Control Measures: Steps taken by a locality to improve air quality by reducing or changing he flow of traffic, e/g., public transit, carpools, HOV lanes, etc.

Trash: Material considered worthless or offensive that is thrown away. Generally defined as dry waste material, but in common usage it is a synonym for garbage, rubbish, or refuse.

Trash-to-Energy Plan: Burning trash to produce energy.

Treatability Studies: Tests of potential cleanup technologies conducted in a laboratory (See: bench-scale tests.)

Treated Regulated Medical Waste: Medical waste treated to substantially reduce or eliminate its pathogenicity, but that has not yet been destroyed.

Treated Wastewater: Wastewater that has been subjected to one or more physical, chemical, and biological processes to reduce its pollution of health hazards.

Treatment: (1) Any method, technique, or process designed to remove solids and/or pollutants from solid waste, wastestreams, effluents, and air emissions. (2) methods used to change the biological character or composition of any regulated medical waste so as to substantially reduce or eliminate its potential for causing disease.

Treatment Plant: A structure built to treat wastewater before discharging it into the environment.

Treatment, Storage, and Disposal Facility: Site where a hazardous substance is treated, stored, or disposed of. TSD facilities are regulated by EPA and states under RCRA.

Tremie: Device used to place concrete or grout under water.

Trial Burn: An incinerator test in which emissions are monitored for the presence of specific organic compounds, particulates, and hydrogen chloride.

Trichloroethylene (TCE): A stable, low boiling-point colorless liquid, toxic if inhaled. Used as a solvent or metal decreasing agent, and in other industrial applications.

Trickling Filter: A coarse treatment system in which wastewater is trickled over a bed of stones or other material covered with bacteria that break down the organic waste and produce clean water.

Trickle Irrigation: Method in which water drips to the soil from perforated tubes or emitters.

Trihalomethane (THM): One of a family of organic compounds named as derivative of methane. THMs are generally by-products of chlorination of drinking water that contains organic material.

Troposphere: The layer of the atmosphere closest to the earth's surface.

Trust Fund (CERCLA): A fund set up under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) to help pay for cleanup of hazardous waste sites and for legal action to force those responsible for the sites to clean them up.

Tube Settler: Device using bundles of tubes to let solids in water settle to the bottom for removal by conventional sludge collection means; sometimes used in sedimentation basins and clarifiers to improve particle removal.

Tuberculation: Development or formation of small mounds of corrosion products on the inside of iron pipe. These tubercules roughen the inside of the pipe, increasing its resistance to water flow.

Tundra: A type of ecosystem dominated by lichens, mosses, grasses, and woody plants. Tundra is found at high latitudes (arctic tundra) and high altitudes (alpine tundra). Arctic tundra is underlain by permafrost and is usually saturated. (See: wetlands.)

Turbidimeter: A device that measures the density of suspended solids in a liquid.

Turbidity: 1. Haziness in air caused by the presence of particles and pollutants. 2. A cloudy condition in water due to suspended silt or organic matter.

Ultra Clean Coal (UCC): Coal that is washed, ground into fine particles, then chemically treated to remove sulfur, ash, silicone, and other substances; usually briquetted and coated with a sealant made from coal.

Ultraviolet Rays: Radiation from the sun that can be useful or potentially harmful. UV rays from one part of the spectrum (UV-A) enhance plant life and are useful in some medical and dental procedures; UV rays from other parts of the spectrum (UV-B) can cause skin cancer or other tissue damage. The ozone layer in the atmosphere partly shields us from ultraviolet rays reaching the earth's surface.

Unconfined Aquifer: An aquifer containing water that is not under pressure; the water level in a well is the same as the water table outside the well.

Underground Injection Control (UIC): The program under the Safe Drinking Water Act that regulates the use of wells to pump fluids into the ground.

Underground Sources of Drinking Water: Aquifers currently being used as a source of drinking water or those capable of supplying a public water system. They have a total dissolved solids content of 10,000 milligrams per liter or less, and are not "exempted aquifers." (See: exempted aquifer.)

Underground Storage Tank: A tank located at least partially underground and designed to hold gasoline or other petroleum products or chemicals.

Unreasonable Risk: Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), "unreasonable adverse effects" means any unreasonable risk to man or the environment, taking into account the medical, economic, social, and environmental costs and benefits of any pesticide.

Unsaturated Zone: The area above the water table where soil pores are not fully saturated, although some water may be present.

Uranium Mill Tailings Piles: Former uranium ore processing sites that contain leftover radioactive materials (wastes), including radium and unrecovered uranium.

Uranium Mill-Tailings Waste Piles: Licensed active mills with tailings piles and evaporation ponds created by acid or alkaline leaching processes.

Urban Runoff: Storm water from city streets and adjacent domestic or commercial properties that carries pollutants of various kinds into the sewer systems and receiving waters.

Urea-Formaldehyde Foam Insulation: A material once used to conserve energy by sealing crawl spaces, attics, etc.; no longer used because emissions were found to be a health hazard.

User Fee: Fee collected from only those persons who use a particular service, as compared to one collected from the public in general.

Utility Load: The total electricity demand for a utility district.

Vapor Capture System: Any combination of hoods and ventilation system that captures or contains organic vapors so they may be directed to an abatement or recovery device.

Vapor Dispersion: The movement of vapor clouds in air due to wind, thermal action, gravity spreading, and mixing.

Vapor Plumes: Flue gases visible because they contain water droplets.

Variance: Government permission for a delay or exception in the application of a given law, ordinance, or regulation.

Vector: 1. An organism, often an insect or rodent, that carries disease. 2. Plasmids, viruses, or bacteria used to transport genes into a host cell. A gene is placed in the vector; the vector then "infects" the bacterium.

Vegetative Controls: Nonpoint source pollution control practices that involve vegetative cover to reduce erosion and minimize loss of pollutants.

Vehicle Miles Travelled (VMT): A measure of the extent of motor vehicle operation; the total number of vehicle miles travelled within a specific geographic area over a given period of time.

Ventilation/Suction: The act of admitting fresh air into a space in order to replace stale or contaminated air; achieved by blowing air into the space. Similarly, suction represents the admission of fresh air into an interior space by lowering the pressure outside of the space, thereby drawing the contaminated air outward.

Venturi Scrubbers: Air pollution control devices that use water to remove particulate matter from emissions.

Vinyl Chloride: A chemical compound, used in producing some plastics, that is believed to be oncogenic.

Virgin Materials: Resources extracted from nature in their raw form, such as timber or metal ore.

Volatile: Any substance that evaporates readily.

Volatile Liquids: Liquids which easily vaporize or evaporate at room temperature.

Volatile Organic Compound (VOC): Any organic compound that participates in atmospheric photochemical reactions except those designated by EPA as having negligible photochemical reactivity.

Volatile Solids: Those solids in water or other liquids that are lost on ignition of the dry solids at 550° Centigrade.

Volatile Synthetic Organic Chemicals: Chemicals that tend to volatilize or evaporate.

Volume Reduction: Processing waste materials to decrease the amount of space they occupy, usually by compacting or shredding, incineration, or composting.

Volumetric Tank Test: One of several tests to determine the physical integrity of a storage tank; the volume of fluid in the tank is measured directly or calculated from product-level changes. A marked drop in volume indicates a leak.

Vulnerable Zone: An area over which the airborne concentration of a chemical accidentally released could reach the level of concern.

Vulnerability Analysis: Assessment of elements in the community that are susceptible to damage should a release of hazardous materials occur.

Wall-fired Boilers: Coal-fired furnaces in which burners are installed and fired on opposite walls of the unit.

Waste: 1. Unwanted materials left over from a manufacturing process. 2. Refuse from places of human or animal habitation.

Waste Characterization: Identification of chemical and microbiological constituents of a waste material.

Waste Exchange: Arrangement in which companies exchange their wastes for the benefit of both parties.

Waste Feed: The continuous or intermittent flow of wastes into an incinerator.

Waste Load Allocation: The maximum load of pollutants each discharger of waste is allowed to release into a particular waterway. Discharge limits are usually required for each specific water quality criterion being, or expected to be, violated. The portion of a stream's total assimilative capacity assigned to an individual discharge.

Waste Minimization: Measures or techniques that reduce the amount of wastes generated during industrial production processes; term is also applied to recycling and other efforts to reduce the amount of waste going into the waste stream.

Waste Reduction: Using source reduction, recycling, or composting to prevent or reduce waste generation.

Waste Stream: The total flow of solid waste from homes, businesses, institutions, and manufacturing plants that are recycled, burned, or disposed of in landfills, or segments thereof such as the "residential waste stream" or the "recyclable waste stream."

Waste Treatment Lagoon: Impoundment made by excavation or earth fill for biological treatment of wastewater.

Waste Treatment Plant: A facility containing a series of tanks, screens, filters and other processes by which pollutants are removed from water.

Waste Treatment Stream: The continuous movement of waste from generator to treater and disposer.

Wastewater: The spent or used water from a home, community, farm, or industry that contains dissolved or suspended matter.

Wastewater Infrastructure: The plan or network for the collection, treatment, and disposal of sewage in a community. The level of treatment will depend on the size of the community, the type of discharge, and/or the designated use of the receiving water.

Wastewater Operations and Maintenance: Actions taken after construction to assure that facilities constructed to treat wastewater will be operated, maintained, and managed to reach prescribed effluent levels in an optimum manner.

Water Pollution: The presence in water of enough harmful or objectionable material to damage the water's quality.

Water Purveyor: An agency or person that supplies water (usually potable water).

Water Quality Criteria: Levels of water quality expected to render a body of water suitable for its designated use. Criteria are based on specific levels of pollutants that would make the water harmful if used for drinking, swimming, farming, fish production, or industrial processes.

Water Quality Standards: State-adopted and EPA-approved ambient standards for water bodies. The standards prescribe the use of the water body and establish the water quality criteria that must be met to protect designated uses.

Water Quality-Based Limitations: Effluent limitations applied to dischargers when mere technology-based limitations would cause violations of water quality standards. Usually applied to discharges into small streams.

Water Quality-Based Permit: A permit with an effluent limit more stringent than one based on technology performance. Such limits may be necessary to protect the designated use of receiving waters (i.e., recreation, irrigation, industry or water supply).

Water Solubility: The maximum possible concentration of a chemical compound dissolved in water. If a substance is water soluble it can very readily disperse through the environment.

Water Storage Pond: An impound for liquid wastes designed to accomplish some degree of biochemical treatment.

Water Supplier: One who owns or operates a public water system.

Water Supply System: The collection, treatment, storage, and distribution of potable water from source to consumer.

Water Table: The level of groundwater.

Water Treatment Lagoon: An impound for liquid wastes designed to accomplish some degree of biochemical treatment.

Water Well: An excavation where the intended use is for location, acquisition, development, or artificial recharge of ground water (excluding sandpoint wells).

Waterborne Disease Outbreak: The significant occurrence of acute infection illness associated with drinking water from a public water system that is deficient in treatment, as determined by the appropriate local or state agency.

Watershed: The land area that drains into a stream; the watershed for a major river may encompass a number of smaller watersheds that ultimately combine at a common delivery point.

Weir: 1. A wall or plate placed in an open channel to measure the flow of water. 2. A wall or obstruction used to control flow from settling tanks and clarifiers to assure a uniform flow rate and avoid short-circuiting. (See: short circuiting)

Well: A bored, drilled, or driven shaft, or a dug hole whose depth is greater than the largest surface dimension and whose purpose is to reach underground water supplies or oil, or to store or bury fluids below ground.

Well Field: Area containing one or more wells that produce usable amounts of water (or oil).

Well Injection: The subsurface emplacement of fluids into a well.

Well Monitoring: Measurement, by on-site instruments or laboratory methods, of the quality of water in a well.

Well Plug: A watertight and gastight seal installed in a bore hole or well to prevent movement of fluids.

Wellhead Protection Area: A protected surface and subsurface zone surrounding a well or wellfield supplying a public water system to keep contaminants from reaching the well water.

Wetlands: An area that is saturated by surface or ground water with vegetation adapted for life under those soil conditions, as swamps, bogs, fens, marshes, and estuaries.

Wildlife Refuge: An area designated for the protection of wild animals, within which hunting and fishing are either prohibited or strictly controlled.

Wire-to-Wire Efficiency: The efficiency of a pump and motor together.

Wood-Burning-Stove Pollution: Air pollution caused by emissions of particulate matter, carbon monoxide, total suspended particulates, and polycyclic organic matter from wood-burning stoves.

Wood Treatment Facility: An industrial facility that treats lumber and other wood products for outdoor use. The process employs chromated copper arsenate, which is regulated as a hazardous material.

Working Level Month (WLM): A unit of measure used to determine cumulative exposure to radon.

Working Level (WL): A unit of measure for documenting exposure to radon decay products, the so-called “daughters”.. One working level is equal to approximately 200 picocuries per liter.

Xenobiote: Any biotum displaced from its normal habitat; a chemical foreign to a biological system.

Yard Waste: The part of solid waste composed of grass clippings, leaves, twigs, branches, and garden refuse.

Yellow-Boy: Iron oxide flocculent (clumps of solids in waste or water); usually observed as orange-yellow deposits in surface streams with excess iron content. (See: floc, flocculation.)

Yield: The quantity of water (expressed as a rate of flows or total quantity per year) that can be collected for a given use from surface or groundwater sources.

Z-list: OSHA's tables of toxic and hazardous air contaminants.

Zone of aeration: The comparatively dry soil or rock located between the ground surface and the top of the water table.

Zone of Saturation: (See: saturated zone.)

Zooplankton: Tiny aquatic animals eaten by fish.