

# CHAPTER 13

## Glossary

*This glossary lists terms that may not be familiar to some readers of this document. Several sources for definitions are available including Glossary of Terms used in the Department of Energy and National Environmental Policy Act Documents (DOE 1998c) and Environment, Safety and Health Thesaurus/Dictionary (DOE 1998d). The last citation is available through the Internet (<http://tis.eh.doe.gov/docs/dict/>).*

### – A –

**Abatement:** Reducing the degree or intensity of, or eliminating, pollution.

**Accident:** An unplanned event or sequence of events that result in undesirable consequences.

**Advanced materials:** A material that has been improved such that it is considered state-of-the-art.

**Air pollutant:** Generally, an airborne substance that could, in high enough concentrations, harm living things or cause damage to materials. From a regulatory perspective, an air pollutant is a substance for which emissions or atmospheric concentrations are regulated or for which maximum guideline levels have been established due to potential harmful effects on human health and welfare.

**Air Quality District:** Geographic area established to regulate pollution on a local level.

**Air quality standards:** The level of pollutants prescribed by regulations that may not be exceeded during a specified time in a defined area.

**Alluvial:** Pertaining to deposition of sediments by rivers and streams.

**Ambient air:** Any unconfined portion of the atmosphere: open air, surrounding air. That portion of the atmosphere, external to buildings, to which the general public has access.

**Aquifer:** A body of rock or sediment under the earth's surface that is capable of transmitting groundwater and yielding usable amounts of groundwater to supply wells and springs. A saturated geologic unit through which significant quantities of water can migrate under natural hydraulic gradients.

**Archaeological sites (resources):** Any material remains of past human life or activities that are of archaeological interest.

**Arroyo:** The channel of an ephemeral or intermittent stream.

**Artifact:** An object produced or shaped by human workmanship that is of archaeological or historical interest.

**As low as reasonably achievable (ALARA):** An approach to radiation protection to manage and control exposures (both individual and collective) and releases of radioactive material to the environment to as far below applicable limits as social, technical, economic, practical, and public policy considerations permit. ALARA is not a limit, but a process for minimizing doses to as far below limits as is practicable.

**Attainment area:** An area that the United States (U.S.) Environmental Protection Agency (EPA) has designated as being in compliance with one or more of the National Ambient Air Quality Standards (NAAQS) for sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, lead, and particulate matter. An area may be in attainment for some pollutants but not for others.

### – B –

**Background radiation:** Radiation from 1) cosmic sources; 2) decay of naturally occurring radioactive materials, including radon (except as a decay product of source or special nuclear material); and 3) global fallout from nuclear weapons as it exists in the environment (such as from the testing of nuclear explosive devices).

**Balance of Operations:** Operations and activities not specifically defined that usually provide support to large facilities and projects and incrementally impact side-wide utilities, emissions, discharges, and waste generation.

**Baseline:** The existing environmental conditions against which impacts of the alternatives can be compared. For this Site-Wide Environmental Assessment (SWEA), the environmental baseline is the environmental condition of the site, as it existed in 2000, unless otherwise stated.

**Bioagent:** Biochemical substance.

**Biohazardous waste:** Any waste that is capable of transmitting an infectious agent to a living organism. This includes discarded materials such as live and weakened vaccines, blood, excretions or secretions, animal carcasses and animal waste products, hypodermic needles, syringes, and broken glass items such as blood vials.

**Biological resource:** Plants, animals, and other living organisms.

## – C –

**Cancer:** A group of diseases characterized by uncontrolled cellular growth with invasive characteristics, such that the disease can transfer from one organ to another.

**Candidate species:** Plants and animals that the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) has sufficient information on biological vulnerability and threats to justify proposing to add them to the threatened and endangered species list, but cannot do so immediately because of the relative listing priority of candidates.

**Carbon dioxide (CO<sub>2</sub>):** A colorless, odorless, nonpoisonous gas that is a normal component of the ambient air; it is a product of normal plant and animal respiration and of the decay of organic matter, and of fuel combustion.

**Carbon monoxide (CO):** A colorless, odorless gas that is toxic if breathed in high concentration over a period of time. It is formed as the product of the incomplete combustion of hydrocarbons (fuels).

**Carcinogen:** A substance that can cause or contribute to the production of cancer.

**Chemical Information System:** Chemical inventory system used by Sandia National Laboratories/Livermore, California (SNL/CA).

**Clean room:** An area that is maintained virtually free of contaminants (such as dust or bacteria); used in laboratory work and in the production of precision parts for electronic equipment.

**Climatology:** The science that deals with climates and investigates their phenomena and causes.

**Collective dose:** The sum of doses.

**Committed dose equivalent:** The dose equivalent to organs or tissues that will be received by an individual during the 50-year period following the intake of radioactive material. It does not include contributions from radiation sources external to the body.

**Committed effective dose equivalent:** The dose value obtained by multiplying the committed dose equivalent for the organ or tissues that are irradiated and the weighting factors applicable to those organs or tissues, and summing all the resulting products.

**Comprehensive Test Ban Treaty:** A proposed treaty prohibiting nuclear tests of all magnitudes.

**Confining layer:** A layer of sediment or rock overlying an aquifer that inhibits the vertical movement of water into or out of the aquifer.

**Contaminant:** Physical, chemical, biological, or radiological substances or matter that may have an adverse effect on air, water, or soil.

**Criteria pollutants:** An air pollutant that is regulated by NAAQS. The EPA must describe the characteristics and potential health and welfare effects that form the basis for setting or revising the standard for each regulated pollutant. Criteria pollutants include sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, lead, and particulate matter.

**Cultural resources:** Prehistoric or historic sites, buildings, structures, districts, or other places or objects (including biota of importance) considered important to a culture, subculture, or community for scientific, traditional, or religious purposes or for any other reason. This includes archaeological sites, traditional use areas, and sacred or religious locations.

**Cumulative impacts:** The impacts on the environment that result when the impact of a proposed action is added to the impacts from other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes the other actions. Cumulative impacts can result from individually minor, but collectively more significant, actions taking place over a period of time.

## – D –

**Decommission:** The process of withdrawing a building, equipment, or a facility from active service.

**Decontamination:** The actions taken to reduce or remove substances that pose a substantial present or potential future hazard to human health or the environment. Examples are removal of radioactive or chemical contamination from facilities, equipment, or soils by washing, heating, chemical or electrochemical action, mechanical cleaning, or other techniques.

**Deflagration:** Burning or causing to burn with intense heat and light.

**Depleted uranium:** Uranium whose content of the fissile uranium-235 isotope is less than the 0.7 percent (by weight) found in natural uranium, so that it contains more uranium-238 than natural uranium.

**Dose (chemical):** The amount of a substance administered to, taken up by, or assimilated by an organism. It is often expressed in terms of the amount of substance per unit mass of the organism, tissue, or organ of concern.

**Dose (radiological):** A generic term meaning absorbed dose, dose equivalent, effective dose equivalent, and committed equivalent dose.

**Dosimetry:** The theory and application of the principles and techniques involved in measuring and recording radiation doses.

**Drinking water standards:** The prescribed level of constituents or characteristics in a drinking water supply that cannot be exceeded legally.

– E –

**Ecosystem:** A community of organisms and their physical environment interacting as an ecological unit.

**Effluent:** Treated or untreated air emissions or liquid discharges.

**Eligible cultural resource:** A cultural resource that has been evaluated and reviewed by an agency and the State Historic Preservation Officer (SHPO) and determined eligible for inclusion in the National Register of Historic Places (NRHP), based on the criteria of significance and eligibility.

**Emission standards:** Requirements established by a state, local government, or the EPA Administrator that limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis.

**Emissions:** Pollution discharged into the atmosphere from smoke stacks, other vents, and surface areas of commercial or industrial facilities, residential chimneys, and vehicle exhausts.

**Endangered species:** Plants or animals that are in danger of extinction throughout all or a significant portion of their ranges and that have been listed as endangered by the USFWS or the NMFS following the procedures outlined in the *Endangered Species Act* and its implementing regulations.

**Environmental assessment (EA):** A public document that a Federal agency prepares under NEPA to provide sufficient evidence and analysis to determine whether a proposed agency action would require preparation of an environmental impact statement (EIS) or finding of no significant impact (FONSI).

**Environmental impact statement (EIS):** The detailed written statement that is required by section 102(2) of NEPA for a proposed major Federal action significantly affecting the quality of the human environment. A DOE EIS is prepared in accordance with applicable requirements of the Council on Environmental Quality (CEQ) NEPA regulations in 40 CFR Parts 1500-1508, and DOE NEPA regulations in 10 CFR Part 1021.

**Environmental justice:** The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means no group of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, local, and tribal programs and policies.

**Ephemeral:** Lasting for a brief period of time, as in a temporary stream.

**Erosion:** The wearing away of land surfaces by the action of wind or water.

**Exotic species:** Species of plants and animals that are not native to a region. They often displace native species and may become pests.

**Explosion (conventional):** A chemical reaction or change of state that occurs in an exceedingly short time with the generation of high temperatures and large quantities of gaseous reaction products.

**Exposure pathway:** The course a chemical or physical agent takes from the source to the exposed organism. An exposure pathway describes a mechanism by which an individual or population is exposed to chemicals or physical agents at or originating from the site.

– F –

**Facility:** All contiguous land, and structures, other operational areas, and improvements used for SNL/CA activities. A facility may consist of several buildings, structures, and operational equipment (e.g., one or more buildings, storage containers, or combinations of them).

**Fault:** A fracture or a zone of fractures within a rock formation along which vertical, horizontal, or transverse slippage has occurred.

**Finding of No Significant Impact (FONSI):** A document prepared by a Federal agency, briefly presenting the reasons that a proposed action will not have a significant effect on the human environment; and, therefore, will not require an environmental impact statement.

**Fissile material:** Any material fissionable by low-energy neutrons consisting of or containing one or more of the fissile (capable of being split or divided) radionuclides: plutonium-239 and -241 and uranium-233 and -235. Neither natural nor depleted uranium is a fissile material.

Fissile materials are classified according to the controls needed to provide nuclear criticality safety during storage and transportation.

**Fissionable:** A synonym for fissile material; the meaning of this term has been extended to include material that can be fissioned by fast neutrons such as uranium-238.

**Floodplain:** The lowlands and relatively flat areas adjoining inland and coastal waters and the flood-prone areas of offshore islands including, at a minimum, that area inundated by a 1-percent or greater chance flood in any given year. The base floodplain is defined as the 100-year (1-percent) floodplain. The critical action floodplain is defined as the 500-year (0.2-percent) floodplain.

**Fume hood:** An enclosed ventilation system used to protect workers from inhaling fumes or vapors.

**Fusion:** A nuclear reaction during which light nuclei are fused together to form a heavier nucleus, accompanied by the release of immense amounts of energy and fast neutrons.

## – G –

**Geology:** The science of the earth: the materials, processes, environments, and history of the planet, including the rocks and their formation and structure.

**Groundwater:** Subsurface water supply in the saturated zone below the level of the water table.

## – H –

**Habitat:** The place or area where populations of plants, animals, and other organisms normally live.

**Hazardous air pollutants:** Air pollutants that are not covered by ambient air quality standards, but that may present a threat of adverse human health effects or adverse environmental effects.

**Hazardous chemical:** Under 29 CFR Part 1910.1200(c), a hazardous chemical is defined as “any chemical, which is a physical hazard or a health hazard.” Physical hazards include combustible liquids, compressed gases, explosives, flammables, organic peroxides, oxidizers, pyrophorics, and reactives. A health hazard is any chemical for which there is good evidence that acute or chronic health effects occur in exposed employees. Hazardous chemicals include carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, agents that act on the hematopoietic system, and agents that damage the lungs, skin, eyes, or mucous membranes.

**Hazardous material:** A material, including a hazardous substance, as defined by 49 CFR Part 171.8, which poses an unreasonable risk to health, safety, and property when transported or handled.

**Hazardous/toxic waste:** Any solid waste (can also be semisolid or liquid or contain gaseous material) having one or more characteristics of ignitability, corrosivity, toxicity, or reactivity, or any other waste specifically regulated as a hazardous waste defined by the *Resource Conservation and Recovery Act* (RCRA) or by the *Toxic Substances Control Act* (TSCA).

**High explosives:** A type of explosive that detonates under the influence of a high-pressure shock or by the explosion of a suitable primary explosive (for example, trinitrotoluene [TNT] and nitroglycerin).

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

## – I –

**Infrastructure:** The basic facilities, services, and installations needed for the functioning of a city, plant, or other facility (such as transportation and communication systems).

**Ion:** An atom or molecule with a positive or negative electrical charge.

**Irradiate:** Exposing a substance to radiation.

**Isotope:** Any of two or more variations of an element in which the nuclei have the same number of protons but a different number of neutrons so that their atomic masses differ.

## – J –

**Joining:** A process that combines materials, such as bonding.

## – L –

**Lacustrine:** The term “lacustrine” is related to the word “lake” - thus a lacustrine wetland is, by definition lake-associated. This category may include freshwater marshes, aquatic beds as well as lakeshores.

**Latent cancer fatality (LCF):** Death from cancer resulting from, and occurring some time after, exposure to ionizing radiation or other carcinogens.

**Low-level waste (LLW):** Radioactive waste that is not high-level waste, transuranic waste, spent nuclear fuel, or by-product tailings from the processing of uranium or thorium.

## – M –

**Maximum contaminant level (MCL):** The maximum permissible level of a contaminant in water delivered to any user of a public water system.

**Meteorology:** The science dealing with the dynamics of the atmosphere and its phenomena, especially relating to weather.

**Microelectronics:** Integrated circuits and electronic devices constructed of individual circuit elements with dimensions of micrometers ( $10^{-6}$  meters [m]) on a carrier with dimensions of a centimeter ( $10^{-2}$  m).

**Mission:** An objective. The DOE has four missions (or business lines): national security, energy resources, environmental quality, and science and technology.

**Mitigation:** Mitigation includes: 1) avoiding an impact altogether by not taking a certain action or parts of an action; 2) minimizing impacts by limiting the degree or magnitude of an action and its implementation; 3) rectifying an impact by repairing, rehabilitating, or restoring the affected environment; 4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of an action; or 5) compensating for an impact by replacing or providing substitute resources or environment.

**Mixed waste:** Waste that contains both “hazardous waste” and “radioactive waste” as defined in this glossary.

## – N –

**National Ambient Air Quality Standards (NAAQS):** Standards defining the highest allowable levels of certain pollutants in the ambient air. Because the EPA must establish the criteria for setting these standards, the regulated pollutants are called criteria pollutants.

**National Emission Standards for Hazardous Air Pollutants (NESHAP):** Emissions standards set by the EPA for air pollutants that are not covered by the NAAQS and that at sufficiently high levels, may cause increased fatalities, irreversible health effects, or incapacitating illness.

**National Pollutant Discharge Elimination System (NPDES):** A provision of the *Clean Water Act* that prohibits discharge of pollutants into waters of the United States unless a special permit is issued by the EPA; a state; or, where delegated, a tribal government on an Indian reservation. The NPDES permit lists either permissible discharge, the level of cleanup technology required for wastewater, or both.

**National Register of Historic Places (NRHP):** The official list of the Nation’s cultural resources that are considered worthy of preservation. The National Park Service (NPS) maintains the list under direction of the Secretary of the Interior. Buildings, structures, objects, sites, and districts are included in the National Register (NR) for their importance in American history, architecture, archeology, culture, or engineering. Properties included on the NR range from large-scale, monumentally proportioned buildings to smaller scale, regionally distinctive buildings.

**Neutron:** An uncharged elementary particle with a mass slightly greater than that of the proton, found in the nucleus of every atom heavier than hydrogen-1.

**Nonattainment area:** An area that the EPA has designated as not meeting (that is, not being in attainment of) one or more of the NAAQS for criteria pollutants. An area may be in attainment for some pollutants, but not others.

**Nonhazardous chemical waste:** Chemical waste not defined as a RCRA hazardous waste.

**Nonnuclear component:** Any one of thousands of parts, not containing radioactive or fissile material (plutonium-239, uranium-233, or uranium-235), that are required in a nuclear weapon.

**Nonproliferation:** Preventing the spread of nuclear weapons, nuclear weapon materials, and nuclear weapon technology.

**Notice of Intent (NOI):** A notice published in the *Federal Register* (FR) that a NEPA document would be prepared and considered. An NOI describes the proposed action and alternatives and the Federal agency’s scoping process, and states the name and address of the person within the agency who can answer questions about the proposed action and EA.

**Nuclear material:** A composite term applied to 1) special nuclear material; 2) source material such as uranium or thorium or ores containing uranium or thorium; and 3) by-product material, which is any radioactive material that is made radioactive by exposure to the radiation incident to the process of producing or using special nuclear material.

**Nuclear Nonproliferation Treaty:** A treaty with the aim of controlling the spread of nuclear weapons technologies, limiting the number of nuclear weapons states, and pursuing, in good faith, effective measures relating to the cessation of the nuclear arms race. The treaty does not invoke stockpile reductions by nuclear states, and it does not address actions of nuclear states in maintaining their stockpiles.

**Nuclear weapon:** Any weapon in which the explosion results from the energy released by reactions involving atomic nuclei (fission, fusion, or both).

– O –

**Occupational Safety and Health Administration**

**(OSHA):** The Federal agency that oversees and regulates workplace health and safety, created by *Occupational Safety and Health Act* of 1970.

**Organic chemicals:** Chemicals that are based on bonds with the carbon atom. Organics can have certain properties, such as volatility, that are not typically associated with inorganics.

**Organic polymer:** Nonmetallic compounds that are basic molecular building blocks.

**Ozone (O<sub>3</sub>):** The triatomic form of oxygen. In the stratosphere, ozone protects the earth from the sun's ultraviolet rays; but in lower levels of the atmosphere, ozone is considered an air pollutant.

– P-Q –

**Particulate matter:** Any finely divided solid or liquid material, other than uncombined water.

**Perched aquifer:** Groundwater separated from an underlying body of groundwater by unsaturated rock.

**Person-rem:** A unit of collective radiation dose applied to populations or groups of individuals; that is, a unit for expressing the dose when summed across all persons in a specified population or group.

**Plasma:** a gas containing free *ions* and *electrons*, and therefore capable of conducting electric currents.

**Plating:** A process in which chemicals are used to coat a surface (typically metallic) with another material. The purpose is typically to improve the material properties such as rust protection.

**Plutonium:** A heavy, radioactive, metallic element with the atomic number 94. It is produced artificially by neutron bombardment of uranium. Plutonium has 15 isotopes with atomic masses ranging from 232 to 246 and half-lives from 20 minutes to 76 million years. Its most important isotope is fissile plutonium-239.

**Prehistoric resource:** For the SWEA, cultural resources produced before the arrival of the Spanish.

**Programmatic Environmental Impact Statement**

**(PEIS):** A broad-scope environmental impact statement that identifies and assesses the environmental impacts of a DOE program.

**Proliferation:** The spread of nuclear weapons and the materials and technologies used to produce them.

**Proposed species:** Any species of fish, wildlife, or plant that is proposed in the FR to be listed under Section 4 of the *Endangered Species Act*.

– R –

**Radiation absorbed dose (rad):** A unit of radiation absorbed dose. One rad is equal to an absorbed dose of 0.01 joules per kilogram (kg).

**Radiation:** The particles (alpha, beta, neutrons, and other subatomic particles) or photons (such as gamma rays and X-rays) emitted from the nucleus of unstable atoms as a result of radioactive decay.

**Radioactive waste:** In general, waste that is managed because of its radioactive content. Waste material that contains special nuclear or by-product material is subject to regulation as radioactive waste under the *Atomic Energy Act* (AEA).

**Radioactivity:** The spontaneous decay or disintegration of unstable atomic nuclei, accompanied by the emission of radiation.

**Radiograph:** An image produced by X-rays passing through an object.

**Radionuclide or Radioisotope:** An unstable isotope that undergoes spontaneous transformations, emitting radiation.

**Recharge:** The processes by which water is absorbed and added to an aquifer.

**Record of Decision (ROD):** A public document that records a Federal agency's decision on a proposed action for which the agency has prepared an environmental impact statement. A ROD identifies the alternatives considered in reaching the decision, the environmentally preferable alternative(s), factors balanced by the DOE in making the decision, whether all practicable means to avoid or minimize environmental harm have been adopted, and if not, why they were not.

**Region of influence (ROI):** A geographic area within which project activities may affect a particular resource.

**Rem:** See "Roentgen equivalent, man."

**Remediation:** The process, or a phase in the process, of rendering areas contaminated by radioactive, hazardous, or mixed waste environmentally safe, whether through processing, entombment, or other methods.

**Resource area:** Analyses in the SWEA are grouped into two categories: resource areas (for example, infrastructure, geology and soils, and water resources) and topic areas (for example, transportation, waste generation, and accidents).

**Resource Conservation and Recovery Act (RCRA)**

**hazardous waste:** A hazardous waste, as defined by RCRA, is a solid waste, or combination of solid wastes, which, because of its quantity, concentration, physical, chemical, or infectious characteristics may 1) cause or significantly contribute to an increasing mortality or increase in serious irreversible, or incapacitating irreversible, illness; or 2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

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

**Risk:** The probability of a detrimental effect from exposure to a hazard. Risk is often expressed quantitatively as the probability of an adverse event occurring multiplied by the consequence of the event. However, separate presentation of probability and consequences is often more informative.

**Roentgen:** A unit of exposure to ionizing X- or gamma radiation equal to or producing 1 electrostatic unit of charge per cubic centimeter of air. It is approximately equal to 1 rad (a standard unit of absorbed dose of radiation).

**Roentgen equivalent, man (rem):** A unit of dose equivalent. The dose equivalent in rems equals the absorbed dose in rads in tissue multiplied by the appropriate quality factor and possibly other modifying factors.

**Runoff:** The portion of rainfall, melted snow, or irrigation water that flows across the ground surface and eventually enters streams.

– S –

**Scoping:** An early and open process for determining the scope of issues to be addressed in an environmental impact statement and for identifying the significant issues related to a proposed action.

**Section 106 process:** A *National Historic Preservation Act* (16 U.S.C. §470 *et seq.*) review process used to identify, evaluate, and protect cultural resources eligible for nomination to the National Register of Historic Places that may be affected by Federal actions or undertakings.

**Seismic:** Pertaining to any earth vibration, especially related to an earthquake.

**Semiconductors:** Any of various solid crystalline substances having electrical conductivity greater than insulators but less than good conductors.

**Site-Wide Environmental Impact Statement**

**(SWEIS):** A type of PEIS that analyzes the environmental impacts of all or selected functions at a DOE site. As part of its regulations for implementation of NEPA, the DOE prepares site-wide EISs for certain large, multiple-program DOE sites; it may prepare EISs or EAs for the other sites to assess the impacts of all or selected functions at those sites (10 CFR Part 1021.330 [c]).

**Socioeconomics:** The science or study of social and economic effects.

**Species of Concern:** Species for which further biological research and field studies are needed to resolve their conservation status.

**START I and II:** Terms that refer to negotiations between the U.S. and Russia (the former Soviet Union during START I negotiations) aimed at limiting and reducing nuclear arms. START I discussions began in 1982 and eventually led to a ratified treaty in 1988. The START II protocol, which has not been fully ratified, will attempt to further reduce the acceptable levels of nuclear weapons ratified in START I.

**State Historic Preservation Officer (SHPO):** A position in each U.S. state that coordinates state participation in the *National Historic Preservation Act* (16 U.S.C. §470 *et seq.*). The SHPO is a key participant in the Section 106 process, assisting in identifying eligible resources, evaluating effects of undertakings, and developing mitigation measures or management plans to reduce any adverse effects to eligible cultural resources.

**Stockpile stewardship:** Stockpile stewardship comprises the activities associated with research, design, development, and testing of nuclear weapons, and the assessment and certification of their safety and reliability.

**Stratigraphy:** Pertaining to the formation, composition, and sequence of stratified rocks.

**Surface water:** Water on the earth's surface, as distinguished from water in the ground (groundwater).

– T –

**Threatened species:** Any plants or animals that are likely to become an endangered species within the foreseeable future throughout all or a significant portion of their ranges and that have been listed as threatened by the USFWS or the NMFS.

**Threshold limit values:** The recommended concentration of contaminants workers may be exposed to according to the American Council of Governmental Industrial Hygienists (ACGIH).

**Throughput:** The number of items undergoing a process, or the amount of material consumed by a process.

**Total effective dose equivalent:** The sum of the effective dose equivalent (for external exposures) and the committed effective dose equivalent (for internal exposures).

**Transuranic (TRU):** An atom with an atomic number greater than uranium (92). Examples include plutonium and californium.

**TRU waste:** Without regard to source or form, waste contaminated with alpha-emitting TRU radionuclides with half-lives greater than 20 years and concentrations greater than 100 nanocuries per gram at the time of assay.

**Tritium:** A radioactive isotope of hydrogen whose nucleus contains one proton and two neutrons.

**Toxic Substances Control Act (TSCA) hazardous waste:** TSCA hazardous waste is waste generated from TSCA materials exceeding identified limits in the Act and supporting regulations. SNL/CA manages two TSCA-regulated materials: PCBs and asbestos. The bulk of TSCA wastes generated at SNL/CA come from decontamination and decommissioning activities.

**Turbidity:** A cloudy condition in water due to suspended silt or organic matter.

– U –

**Unsaturated zone:** A subsurface porous region of the earth in which the pore space is not filled with water.

– V –

**Volatile organic compounds (VOCs):** A broad range of organic compounds, often halogenated, which vaporize at typical background or relatively low temperatures, such as benzene, chloroform, and methyl alcohol, and other solvents.

– W –

**Wafer:** Another word for a computer chip.

**Wetland:** An area that is inundated by surface or ground-water with a frequency sufficient to support and, under normal circumstances, does or would support a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.

**Travel corridor:** Passageways used by animals to move between various parts of their home range or, during migration, to move from summer (breeding) to winter ranges.

– X-Y-Z

**X-ray:** A high-energy photon.