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GLOSSARY OF TERMS USED IN DOE NEPA DOCUMENTS

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U.S. Department of Energy
Office of NEPA Policy and Compliance

Glossary of Terms Used in DOE NEPA Documents

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U.S. DEPARTMENT OF ENERGY
OFFICE OF NEPA POLICY AND COMPLIANCE

PREFACE

Purpose of this Glossary

This Glossary is provided as a resource for preparing technical glossaries and related explanatory material (such as text-box explanations of technical concepts) for DOE National Environmental Policy Act (NEPA) documents. Technical terms used in DOE NEPA documents should be defined to aid lay readers' understanding. Definitions may be provided either in the body of the document (recommended for terms that have different meanings technically than colloquially, such as "canyon" and "pit") or in a glossary section.

Using this Glossary should foster efficiency and consistency in the preparation of DOE NEPA documents. DOE NEPA practitioners are not required to use these definitions, however, as discussed further below.

Sources for Definitions

Definitions in this Glossary were derived from the most authoritative sources available (e.g., a statute, regulation, DOE directive, dictionary, or technical reference book) and checked against other authorities. A key to the abbreviations used to designate the source is presented at the end of the Glossary.

Because the primary purpose of this Glossary is to enhance reader understanding of DOE NEPA documents, some authoritative definitions have been modified to make them clearer to lay readers. Such modifications include punctuation changes, rearranged clauses, added clarifying information, or deletions of material that seems unlikely to aid reader understanding. The Glossary identifies the source of each definition. The phrase "derived from" is added when the definition is based on the identified source or sources, but does not exactly follow the original. (In addition to the examples of modifications cited above, the definition may be condensed from a longer discussion in a technical reference.)

Finally, no source is given for terms such as "millirem," whose definition is universal, albeit not familiar to lay readers, and for definitions that were thoughtfully developed for this Glossary but do not originate from a generally recognized authority.

How to Use this Glossary Because of the diversity of DOE's missions and programs, a comprehensive glossary of terms used in DOE NEPA documents would include thousands of terms. This Glossary, however, defines only technical and regulatory terms that are commonly encountered in DOE NEPA documents.

This Glossary explains terms according to their most likely meanings in DOE NEPA documents. When more than one definition is provided, Glossary users should consider which definition best fits their circumstances. The listed sources for the definitions may help in determining which definition is best.

Document preparers should supplement definitions provided herein when necessary to meet the communication requirements for a particular NEPA document. Note that when a NEPA

document uses a term in a different sense than is described in the Glossary (when "pit" refers to a hole in the ground, for example, rather than the fissile core of a nuclear weapon), the definition in this Glossary would be inappropriate. Glossary users may need to modify the definitions given herein to adequately describe how a term is used in a specific NEPA document. In other cases, the user's need may be fully met by abbreviating a definition.

The Office of NEPA Policy and Compliance may revise or expand this guidance from time to time and welcomes suggestions for improvement.

Glossary of Terms Used in DOE NEPA Documents[1]

TERM	DEFINITION	SOURCE
Absorbed dose	For ionizing radiation, the energy imparted to matter by ionizing radiation per unit mass of the irradiated material (e.g., biological tissue). The units of absorbed dose are the rad and the gray. (See rad and gray.)	Derived from DOE 5400.5, 10 CFR 20.1003
Accelerator	A device that accelerates charged particles (such as electrons, protons, and atomic nuclei) to high velocities, thus giving them high kinetic energies. (Kinetic energy is the energy associated with motion.) *Add, as appropriate:* The accelerated particles may be used in industrial and medical applications or in research on nuclear or subnuclear phenomena.	Derived from Fermilab, LBL
Accident	An unplanned event or sequence of events that results in undesirable consequences.	Derived from DOE G 420.1-X, DOE-STD-3009-94
Actinide	Any member of the group of elements with atomic numbers from 89 (actinium) to 103 (lawrencium) including uranium and plutonium. All members of this group are radioactive.	Derived from ESTD
Acute exposure	A single, short-term exposure to radiation, a toxic substance, or other stressors that may result in biological harm. Pertaining to radiation, the exposure incurred during and shortly after a radiological release. Acute exposure involves the absorption or intake of a relatively large amount of radiation or radioactive material.	Derived from Suter, HPRH
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.	Derived from EPA Terms
Air quality	The cleanliness of the air as measured by the levels of pollutants relative to standards or guideline levels established to protect human health and welfare. Air quality is often expressed in terms of the pollutant for which concentrations are the highest percentage of a standard (e.g., air quality may be unacceptable if the level of one pollutant is 150% of its standard, even if levels of other pollutants are well below their respective standards).	Derived from EPA Terms
ALARA	See "As low as reasonably achievable."	

[1]*A key to the abbreviations used to designate sources is presented at the end of the glossary.

TERM	DEFINITION	SOURCE
Alpha particle	A positively charged particle ejected spontaneously from the nuclei of some radioactive elements. It is identical to a helium nucleus and has a mass number of 4 and an electrostatic charge of +2. It has low penetrating power and a short range (a few centimeters in air). (See alpha radiation.)	NRC Glossary
Alpha radiation	A strongly ionizing, but weakly penetrating, form of radiation consisting of positively charged alpha particles emitted spontaneously from the nuclei of certain elements during radioactive decay. Alpha radiation is the least penetrating of the four common types of ionizing radiation (alpha, beta, gamma, and neutron). Even the most energetic alpha particle generally fails to penetrate the dead layers of cells covering the skin and can be easily stopped by a sheet of paper. Alpha radiation is most hazardous when an alpha-emitting source resides inside an organism. (See alpha particle.)	Derived from NRC Glossary, NCRP 65
Applicable or relevant and appropriate requirements (ARARs)	Requirements that must be met when taking an action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). They include cleanup standards, standards of control, and other substantive environmental protection requirements and criteria established under Federal and state law and regulations. (See Comprehensive Environmental Response, Compensation, and Liability Act.)	Derived from 40 CFR 300.5
Aquifer	A body of rock or sediment that is capable of transmitting groundwater and yielding usable quantities of water to wells or springs.	Derived from AGI 87, DOE 6430.1A
	EPA regulations define "aquifer" as follows (different regulations vary slightly in wording): An underground geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to wells or springs.	40 CFR 146.3, 149.2, 144.3, 191.12, 260.10, 270.2
As low as reasonably achievable (ALARA)	An approach to radiation protection to manage and control worker and public 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 dose limit but a process for minimizing doses to as far below limits as is practicable.	Derived from 10 CFR 835.2, Proposed 10 CFR 834
Attainment area	An area that the Environmental Protection Agency 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. (See National Ambient Air Quality Standards (NAAQS), nonattainment area, and particulate matter.)	Derived from EPA Terms

TERM	DEFINITION	SOURCE
Average (50%) meteorology	Meteorological conditions that, for a particular area, correspond to the median amount of mixing of pollutants with the less contaminated surrounding air. The term indicates conditions during which more favorable mixing conditions occur 50% of the time and less favorable mixing conditions occur 50% of the time. The term "average meteorology" is often used without further definition; it corresponds to a median value. [See conservative (95%) meteorology.]	Derived from DOE 6430.1A
Background radiation	Radiation from (1) cosmic sources, (2) naturally occurring radioactive materials, including radon (except as a decay product of source or special nuclear material), and (3) global fallout as it exists in the environment (e.g., from the testing of nuclear explosive devices).	Derived from 10 CFR 20.1003, NRC Glossary
Baseline	The existing environmental conditions against which impacts of the proposed action and its alternatives can be compared. *For a specific NEPA document, a further statement can be included about the date or conditions that are considered the baseline. For example:* "For this Environmental Impact Statement the environmental baseline is the environmental condition of the site as it exists in 1999."	
Best available control technology (BACT)	Available devices, systems, or techniques for achieving the maximum reduction of air pollutant emissions while considering energy, environmental, and economic impacts. BACT is determined on a case-by-case basis for new sources or major modifications to existing sources in areas that are in attainment of National Ambient Air Quality Standards (NAAQS). BACT does not permit emissions in excess of those allowed under any Clean Air Act provisions. [See lowest achievable emissions rate (LAER), maximum achievable control technology (MACT), reasonably achievable control technology (RACT), and National Ambient Air Quality Standards (NAAQS).]	Derived from EPA Terms, 40 CFR 51.166(b)(12)
Best available technology (BAT)	*Under the Clean Water Act:* Economically achievable pollution control methods that will allow point sources to comply with the effluent limitations required by the Clean Water Act. Factors to be taken into account in assessing what is the best available technology include the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, the cost of achieving such effluent reduction, non-water quality environmental impact (including energy requirements), and such other factors as the Environmental Protection Agency Administrator deems appropriate.	Derived from CWA sects. 301(b) and 304(b)(2)(B)
	Under the Safe Drinking Water Act: The best technology, treatment techniques, or other means that the Environmental Protection Agency Administrator finds, after examination for efficacy under field conditions and not solely under laboratory conditions, are	40 CFR 141.2, EPA Glossary, WQA Glossary

TERM	DEFINITION	SOURCE
	available taking cost into consideration. For the purposes of setting maximum contaminant levels (MCLs) for synthetic organic chemicals, any BAT must be at least as effective as granular activated carbon. (See maximum contaminant level.)	
Best demonstrated available technology (BDAT)	The most effective commercially available means of treating specific types of hazardous waste, as designated by the Environmental Protection Agency in 40 CFR Part 268. BDATs may change with advances in treatment technologies.	Derived from EPA Terms
Best management practices (BMP)	Structural, nonstructural, and managerial techniques, other than effluent limitations, to prevent or reduce pollution of surface water. They are the most effective and practical means to control pollutants that are compatible with the productive use of the resource to which they are applied. BMPs are used in both urban and agricultural areas. BMPs can include schedules of activities; prohibitions of practices; maintenance procedures; treatment requirements; operating procedures; and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.	Derived from EPA Glossary, 40 CFR 122.2, 40 CFR 232.2
Beta radiation	Ionizing radiation consisting of fast moving, positively or negatively charged elementary particles emitted from atomic nuclei during radioactive decay. Beta radiation is more penetrating, but less ionizing than alpha radiation. Negatively charged beta particles are identical to electrons; positively charged beta particles are known as positrons. Both are stopped by clothing or a thin sheet of metal.	Derived from EPA RPD
Bound	To use simplifying assumptions and analytical methods in an analysis of impacts or risks such that the result overestimates or describes an upper limit on (i.e., "bounds") potential impacts or risks. *Related terms:* A *bounding analysis* is an analysis designed to overestimate or determine an upper limit to potential impacts or risks. A *bounding accident* is a hypothetical accident, the calculated consequences of which equal or exceed the consequences of all other potential accidents for a particular activity or facility.	
By-product material	Any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material, and the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content.	*AEA*
	Where relevant to a particular NEPA document, add: By-product material is exempt from regulation under the Resource Conservation and Recovery Act. However, the exemption applies only to the actual radionuclides dispersed or suspended in the waste	Derived from DOE 5820.2A, 10 CFR 962

TERM	DEFINITION	SOURCE
	substance. Any nonradioactive hazardous waste component of the waste is subject to regulation under the Resource Conservation and Recovery Act.	
Calcine	To heat a solid to a high temperature below the melting point in order to drive off volatile constituents, convert the material to a powder, or cause other changes, such as oxidation or reduction. Originally referred specifically to the heating of calcium carbonate (i.e., limestone) to drive off carbon dioxide gas and form calcium oxide (i.e., quicklime). *Note: Calcine may also be used as a noun, referring to the product of calcining.*	Derived from AHD, MW, and UW
Candidate species	Plants and animals native to the United States for which the U.S. Fish and Wildlife Service or the National Marine Fisheries Service 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 other species have a higher priority for listing. The Services determine the relative listing priority of candidate taxa in accordance with general listing priority guidelines published in the *Federal Register*. (See endangered species and threatened species.)	Derived from ESA WN, 62 FR 49398
Canister	A general term for a container, usually cylindrical, used in handling, storage, transportation, or disposal of waste.	
Canyon	A large heavily shielded concrete building containing a remotely operated plutonium or uranium processing facility.	
Capable fault	In general, "capable fault" means a geologic fault along which it is mechanically feasible for sudden slip (i.e., earth motion) to occur.	Derived from Bolt
	Nuclear Regulatory Commission reactor siting regulations define a capable fault as a fault which has exhibited one or more of the following characteristics: (1) Movement at or near the ground surface at least once within the past 35,000 years or movement of a recurring nature within the past 500,000 years. (2) Macro-seismicity instrumentally determined with records of sufficient precision to demonstrate a direct relationship with the fault. (3) A structural relationship to a capable fault according to characteristics (1) or (2) such that movement on one could be reasonably expected to be accompanied by movement on the other.	10 CFR 100, Appendix A
Cask	A heavily shielded container used to store or ship radioactive materials.	NRC Glossary
Chain reaction	A reaction that initiates its own repetition. In nuclear fission, a chain reaction occurs when a neutron induces a nucleus to fission and the fissioning nucleus releases one or more neutrons which induce other nuclei to fission.	Derived from UI

TERM	DEFINITION	SOURCE
Chronic exposure	A continuous or intermittent exposure of an organism to a stressor (e.g., a toxic substance or ionizing radiation) over an extended period of time or significant fraction (often 10% or more) of the life span of the organism. Generally, chronic exposure is considered to produce only effects that can be observed some time following initial exposure. These may include impaired reproduction or growth, genetic effects, and other effects such as cancer, precancerous lesions, benign tumors, cataracts, skin changes, and congenital defects.	Derived from Suter, EPA RPD
Cladding	The outer metal jacket of a nuclear fuel element or target. It prevents fuel corrosion and retains fission products during reactor operation and subsequent storage, as well as providing structural support. Zirconium alloys, stainless steel, and aluminum are common cladding materials. In general, a metal coating bonded onto another metal.	Derived from NRC Glossary, TM
Class I area	A specifically designated area where the degradation of air quality is stringently restricted (e.g., many national parks, wilderness areas). (See prevention of significant deterioration.)	Derived from 40 CFR 51.166(e)
Closure	Refers to the deactivation and stabilization of a waste treatment, storage, or disposal unit (such as a waste treatment tank, waste storage building, or landfill) or hazardous materials storage unit (such as an underground storage tank). For storage units, closure typically includes removal of all residues, contaminated system components, and contaminated soil. For disposal units (i.e., where waste is left in place), closure typically includes site stabilization and emplacement of caps or other barriers. Specific requirements for the closure process are found in the regulations applicable to many types of waste management units and hazardous material storage facilities. *Provide a document-specific definition if appropriate.*	Derived from DOE M 435.1; 40 CFR Parts 192, 258, 264, 265, 270, and 280; 10 CFR Parts 60 and 61
Collective dose	The sum of the individual doses received in a given period of time by a specified population from exposure to a specified source of radiation. Collective dose is expressed in units of person-rem or person-sievert.	Derived from 10 CFR 20.1003; 10 CFR 835.2
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 dose equivalent is expressed in units of rems or sieverts. *Note: The International Commission on Radiological Protection recognizes the term "committed equivalent dose" rather than "committed dose equivalent."*	Derived from 10 CFR 20.1003, 10 CFR 835.2

TERM	DEFINITION	SOURCE
Committed effective dose equivalent	The dose value obtained by (1) multiplying the committed dose equivalents for the organs or tissues that are irradiated and the weighting factors applicable to those organs or tissues and (2) summing all the resulting products. Committed effective dose equivalent is expressed in units of rem or sievert. (See committed dose equivalent and weighting factor.)	Derived from 10 CFR 20.1003, DOE 5400.5
Committed equivalent dose	The committed dose in a particular organ or tissue accumulated in a specified period (e.g., 50 years for workers and 70 years for members of the public) after intake of a radionuclide.	Derived from NCRP 116
Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)	A Federal law (also known as Superfund), enacted in 1980 and reauthorized in 1986, that provides the legal authority for emergency response and cleanup of hazardous substances released into the environment and for the cleanup of inactive waste sites.	Derived from DOE G 430.1-1, CERCLA
Conservative (95%) meteorology	Meteorological conditions that, for a particular area, are relatively unfavorable for the mixing of air pollutants with surrounding, less polluted, air. The term indicates conditions under which more favorable mixing conditions occur 95% of the time, and less favorable mixing conditions occur only 5% of the time. [See Average (50%) meteorology.]	Derived from DOE 6430.1A
Contact-handled waste	Radioactive waste or waste packages whose external dose rate is low enough to permit contact handling by humans during normal waste management activities. "Contact-handled transuranic waste" means transuranic waste with a surface dose rate not greater than 200 millirem per hour. (See remote-handled waste.)	DOE glossary WIPP LWA
Criteria pollutant	An air pollutant that is regulated by National Ambient Air Quality Standards (NAAQS). The Environmental Protection Agency 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 two size classes of particulate matter, less than 10 micrometers (0.0004 inch) in diameter, and less than 2.5 micrometers (0.0001 inch) in diameter. New pollutants may be added to, or removed from, the list of criteria pollutants as more information becomes available. (See National Ambient Air Quality Standards.) *Note: Sometimes pollutants regulated by state laws are also called criteria pollutants.*	Derived from EPA Terms
Critical habitat	Habitat essential to the conservation of an endangered or threatened species that has been designated as critical by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service following the procedures outlined in the Endangered Species Act	Derived from 50 CFR 402.02, 50 CFR 424.02(d)

TERM	DEFINITION	SOURCE
	and its implementing regulations (50 *CFR* 424). (See endangered species and threatened species.) The lists of Critical Habitats can be found in 50 CFR 17.95 (fish and wildlife), 50 CFR 17.96 (plants), and 50 CFR 226 (marine species).	
Critical mass	The smallest mass of fissionable material that will support a self-sustaining nuclear chain reaction.	Derived from UI
Critical organ	The body organ receiving a radionuclide or radiation dose that would result in the greatest overall damage to the body. Specifically, that organ in which the dose equivalent would be most significant due to a combination of the organ's radiological sensitivity and the dose distribution throughout the body.	Derived from HPRH, ANSI N1.1
Criticality	The condition in which a system is capable of sustaining a nuclear chain reaction.	Derived from DOE 6430.1A, DOE 5480.30, DOE Glossary
Cumulative impacts	Impacts on the environment that result when the incremental impact of a proposed action is added to the impacts from other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes the other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.	Derived from 40 CFR 1508.7
Curie (Ci)	A unit of radioactivity equal to 37 billion disintegrations per second (i.e., 37 billion becquerels); also a quantity of any radionuclide or mixture of radionuclides having 1 curie of radioactivity.	Derived from HPRH, NCRP 51, 10 CFR 20.1005
Decay, radioactive	The decrease in the amount of any radioactive material with the passage of time, due to spontaneous nuclear disintegration (i.e., emission from atomic nuclei of charged particles, photons, or both).	Derived from RHH, HPRH, NRC Glossary
Decibel	A unit for expressing the relative intensity of sounds on a logarithmic scale from zero for the average least perceptible sound to about 130 for the average level at which sound causes pain to humans. For traffic and industrial noise measurements, the A-weighted decibel (dBA), a frequency-weighted noise unit, is widely used. The A-weighted decibel scale corresponds approximately to the frequency response of the human ear and thus correlates well with loudness.	Derived from EPA Glossary, ESTD
Depleted uranium	Uranium whose content of the fissile isotope uranium-235 is less than the 0.7 percent (by weight) found in natural uranium, so that it contains more uranium-238 than natural uranium. (See uranium	Derived from 10 CFR 71, 49 CFR 173.403, NRC

TERM	DEFINITION	SOURCE
	and natural uranium.) *Where relevant to a particular NEPA document, add:* Depleted uranium generally is derived from residues of uranium isotope separation; some is derived from spent nuclear fuel.	Glossary, MH
Design basis accident	An accident postulated for the purpose of establishing functional and performance requirements for safety structures, systems, and components.	DOE G 420.1-X [see DOE-STD-3009-94]
Detector	A device used to convert the energy of incident radiation into another form (such as light, an electrical signal, or a trace in a chemical emulsion) in order to observe or measure radiation. A *particle detector* is any device used to sense the passage of atomic or subatomic particles or to measure their properties. For many particle detectors, this involves observing and measuring the radiation (electromagnetic or ionizing) released as particles interact with a gaseous, liquid, or solid medium or an electromagnetic field. The term also may refer to a collection of particle detection devices designed so that each serves a particular purpose in allowing physicists to reconstruct particle events.	Derived from PD, ANSI N42.18 Derived from LBL, HEP
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.	Derived from HL
Dose (radiological)	A generic term meaning absorbed dose, dose equivalent, effective dose equivalent, committed dose equivalent, committed effective dose equivalent, or committed equivalent dose, as defined elsewhere in this glossary.	Derived from 10 CFR 20.1003
Dose commitment	The total dose equivalent a body, organ, or tissue would receive during a specified period of time (e.g., 50 years) as a result of intake (as by ingestion or inhalation) of one or more radionuclides from a defined release.	Derived from ANSI N343
Dose equivalent	A measure of radiological dose that correlates with biological effect on a common scale for all types of ionizing radiation. Defined as a quantity equal to the absorbed dose in tissue multiplied by a quality factor (the biological effectiveness of a given type of radiation) and all other necessary modifying factors at the location of interest. The units of dose equivalent are the rem and sievert (Sv).	Derived from 10 CFR 20.1003, FGR 11
Ecology	A branch of science dealing with the interrelationships of living organisms with one another and with their nonliving environment.	Derived from MW, ESTD
Ecosystem	A community of organisms and their physical environment interacting as an ecological unit.	EE&S

TERM	DEFINITION	SOURCE
Effective dose equivalent	The dose value obtained by multiplying the dose equivalents received by specified tissues or organs of the body by the appropriate weighting factors applicable to the tissues or organs irradiated, and then summing all of the resulting products. It includes the dose from radiation sources internal and external to the body. The effective dose equivalent is expressed in units of rems or sieverts. (See committed dose equivalent and committed effective dose equivalent.)	Derived from 10 CFR 835.2, 10 CFR 20.1003, DOE 5400.5
Effluent	A waste stream flowing into the atmosphere, surface water, groundwater, or soil. Most frequently the term applies to wastes discharged to surface waters.	Derived from EPA Terms
Endangered species	Plants or animals that are in danger of extinction through all or a significant portion of their ranges and that have been listed as endangered by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service following the procedures outlined in the Endangered Species Act and its implementing regulations (50 CFR 424). (See threatened species.) The lists of endangered species can be found in 50 CFR 17.11 (wildlife), 50 CFR 17.12 (plants), and 50 CFR 222.23(a) (marine organisms). *Note: Some states also list species as endangered. Thus, in certain cases a state definition would also be appropriate.*	Derived from ESA sect. 3(6) [16 U.S.C. §1532(6)], 50 CFR 17.3, 50 CFR 424.02(e)
Enriched uranium	Uranium whose content of the fissile isotope uranium-235 is greater than the 0.7 percent (by weight) found in natural uranium. (See uranium and natural uranium.)	Derived from 10 CFR 71, 49 CFR 173.403
Environmental assessment (EA)	A concise public document that a Federal agency prepares under the National Environmental Policy Act (NEPA) to provide sufficient evidence and analysis to determine whether a proposed agency action would require preparation of an environmental impact statement (EIS) or a finding of no significant impact. A Federal agency may also prepare an EA to aid its compliance with NEPA when no EIS is necessary or to facilitate preparation of an EIS when one is necessary. An EA must include brief discussions of the need for the proposal, alternatives, environmental impacts of the proposed action and alternatives, and a list of agencies and persons consulted. [See finding of no significant impact, environmental impact statement, and National Environmental Policy Act.]	Derived from 40 CFR 1508.9, 10 CFR 1022.4(d)
Environmental impact statement (EIS)	The detailed written statement that is required by section 102(2)(C) of the National Environmental Policy Act (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 NEPA regulations in 40 CFR Parts 1500-1508, and the Department of Energy NEPA regulations in 10 CFR Part 1021. The statement	Derived from 40 CFR 1500-1508

TERM	DEFINITION	SOURCE
	includes, among other information, discussions of the environmental impacts of the proposed action and all reasonable alternatives, adverse environmental effects that can not be avoided should the proposal be implemented, the relationship between short-term uses of the human environment and enhancement of long-term productivity, and any irreversible and irretrievable commitments of resources.	
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 that 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. Executive Order 12898 directs federal agencies to make achieving environmental justice part of their missions by identifying and addressing disproportionately high and adverse effects of agency programs, policies, and activities on minority and low-income populations. (See minority population and low-income population.)	Derived from EPA EJ and E.O. 12898
Epicenter	The point on the earth's surface directly above the focus of an earthquake.	AGI 76
Epidemiology	Study of the occurrence, causes, and distribution of disease or other health-related states and events in human populations, often as related to age, sex, occupation, ethnic, and economic status, in order to identify and alleviate health problems and promote better health.	Derived from EPA Glossary, ATSDR GL
Exposure	The condition of being subject to the effects of or acquiring a dose of a potential stressor such as a hazardous chemical agent or ionizing radiation; also, the process by which an organism acquires a dose of a chemical such as mercury or a physical agent such as ionizing radiation. Exposure can be quantified as the amount of the agent available at various boundaries of the organism (e.g., skin, lungs, gut) and available for absorption. In the radiological context "exposure" refers to the state of being irradiated by ionizing radiation or the incidence of radiation on living or inanimate material. More specifically, radiation exposure is a dosimetric quantity for ionizing radiation, based on the ability of radiation to produce ionization in air. It is the time integral of the radiation intensity incident at a given position. Exposure is expressed in units of roentgens (R) or coulombs per kilogram (C/kg). *Note: Although still encountered occasionally as a unit of exposure, the roentgen is no longer in favor; the coulomb per kilogram is the SI unit of exposure and is now generally accepted.*	Derived from MW, 10 CFR 20.1003, Suter, ANSI N1.1, ANSI N13.6, NBS 55, ICRP

TERM	DEFINITION	SOURCE
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 chemicals or physical agents at or originating from a release site reach an individual or population. Each exposure pathway includes a source or release from a source, an exposure route, and an exposure point. If the exposure point differs from the source, a transport/exposure medium such as air or water is also included.	Derived from EPA Terms
Finding of no significant impact (FONSI)	A public document issued by a Federal agency briefly presenting the reasons why an action for which the agency has prepared an environmental assessment has no potential to have a significant effect on the human environment and, thus, will not require preparation of an environmental impact statement. [See environmental assessment and environmental impact statement.]	Derived from 10 CFR 1022.4(g)
Fissile material	*General definition:* Although sometimes used as a synonym for fissionable material, this term has acquired a more restricted meaning; namely, any material fissionable by low-energy (i.e., thermal or slow) neutrons. Fissile materials include U-235, U-233, Pu-239, and Pu-241. (See fissionable material.)	Derived from NRC Glossary
	Definition specific to hazardous materials transportation Means plutonium-238, plutonium-239, plutonium-241, uranium-233, uranium-235, or any combination of these radionuclides. The definition does not apply to unirradiated natural uranium and depleted uranium, and natural uranium or depleted uranium that has been irradiated in a thermal reactor. Certain additional exceptions are provided in 49 CFR 173.453.	49 CFR 173.403
Fission	A nuclear transformation that is typically characterized by the splitting of a heavy nucleus into at least two other nuclei, the emission of one or more neutrons, and the release of a relatively large amount of energy. Fission of heavy nuclei can occur spontaneously or be induced by neutron bombardment.	Derived from RHH, BEIR III
Fission products	Nuclei (fission fragments) formed by the fission of heavy elements, plus the nuclides formed by the fission fragments' radioactive decay.	NRC Glossary, HPRH, ANSI N1.1
Fissionable material	Commonly used as 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.	NRC Glossary
Floodplains	The lowlands and relatively flat areas adjoining inland and coastal waters and the flood prone areas of offshore islands. Floodplains include, at a minimum, that area with at least a 1.0 percent chance of being inundated by a flood in any given year. The *base floodplain* is defined as the area which has a 1.0 percent or greater	Derived from 10 CFR 1022.4, DOE Glossary

TERM	DEFINITION	SOURCE
	chance of being flooded in any given year. Such a flood is known as a 100-year flood. The *critical action floodplain* is defined as the area which has at least a 0.2 percent chance of being flooded in any given year. Such a flood is known as a 500-year flood. Any activity for which even a slight chance of flooding would be too great (e.g., the storage of highly volatile, toxic, or water reactive materials) should not occur in the critical action floodplain. The *probable maximum flood* is the hypothetical flood that is considered to be the most severe reasonably possible flood, based on the comprehensive hydrometeorological application of maximum precipitation and other hydrological factors favorable for maximum flood runoff (e.g., sequential storms and snowmelts). It is usually several times larger than the maximum recorded flood.	
Fugitive emissions	1. Emissions that do not pass through a stack, vent, chimney, or similar opening where they could be captured by a control device. 2. Any air pollutant emitted to the atmosphere other than from a stack. Sources of fugitive emissions include pumps; valves; flanges; seals; area sources such as ponds, lagoons, landfills, piles of stored material (e.g., coal); and road construction areas or other areas where earthwork is occurring.	Derived from EPA Terms Derived from 40 CFR 57.103(m)
Fusion	The combining of two light nuclei (such as hydrogen isotopes or lithium) to form a heavier nucleus. Fusion is accompanied by the release of large amounts of energy.	Derived from MH
Gamma radiation	High-energy, short wavelength, electromagnetic radiation emitted from the nucleus of an atom during radioactive decay. Gamma radiation frequently accompanies alpha and beta emissions and always accompanies fission. Gamma rays are very penetrating and are best stopped or shielded by dense materials, such as lead or depleted uranium. Gamma rays are similar to, but are usually more energetic than, x-rays. (See also alpha radiation, beta radiation, and fission).	Derived from NRC Glossary, HPRH
Genetic effect	Inheritable changes (chiefly mutations) produced by exposure, to ionizing radiation or other chemical or physical agents, of the parts of cells that control biological reproduction and inheritance.	Derived from NCRP 48, RHH
Gray	The SI (International System of Units) unit of absorbed dose. One gray (Gy) is equal to an absorbed dose of 1 joule / kg (1 Gy = 100 rads. (The joule is the SI unit of energy, abbreviated as J.) (See absorbed dose.)	Derived from 10 CFR 20.1004
Greater-than-Class-C (GTCC) waste	Low-level radioactive waste from commercial sources containing radionuclide concentrations that exceed Nuclear Regulatory Commission limits for Class C low-level waste as defined in 10 CFR 61. It is the most radioactive of the categories of low-level radioactive waste.	Derived from DOE Glossary, 10 CFR 61

TERM	DEFINITION	SOURCE
Groundwater	Water below the ground surface in a zone of saturation.	40 CFR 192.01
	Related definition: Subsurface water is all water that exists in the interstices of soil, rocks, and sediment below the land surface, including soil moisture, capillary fringe water, and groundwater. That part of subsurface water in interstices completely saturated with water is called groundwater.	Derived from Walton, AZ WRRC
Half-life (radiological)	The time in which one half of the atoms of a particular radionuclide disintegrate into another nuclear form. Half-lives for specific radionuclides vary from millionths of a second to billions of years.	Derived from NRC Glossary
Hazard analysis	The assessment of hazardous situations potentially associated with a process or activity. It includes the identification of material, system, process, and plant characteristics that can produce undesirable consequences. A safety analysis report hazard analysis examines the complete spectrum of potential accidents that could expose members of the public, onsite workers, facility workers, and the environment to hazardous materials. (See safety analysis report.)	Derived from DOE-STD-3009-94, DOE G 420.1-X
Hazardous air pollutants (HAPs)	Air pollutants not covered by ambient air quality standards but which may present a threat of adverse human health effects or adverse environmental effects. Those specifically listed in 40 CFR 61.01 are asbestos, benzene, beryllium, coke oven emissions, inorganic arsenic, mercury, radionuclides, and vinyl chloride. More broadly, HAPs are any of the 189 pollutants listed in or pursuant to section 112(b) of the Clean Air Act. Very generally, HAPs are any air pollutants that may realistically be expected to pose a threat to human health or welfare.	Derived from EPA Terms, 40 CFR 61.01, 40 CFR 63.2
Hazardous waste	A category of waste regulated under the Resource Conservation and Recovery Act (RCRA). To be considered hazardous, a waste must be a solid waste under RCRA and must exhibit at least one of four characteristics described in 40 CFR 261.20 through 40 CFR 261.24 (i.e., ignitability, corrosivity, reactivity, or toxicity) or be specifically listed by the Environmental Protection Agency in 40 CFR 261.31 through 40 CFR 261.33. Source, special nuclear, or by-product materials as defined by the Atomic Energy Act are not hazardous waste because they are not solid waste under RCRA. (See characteristic waste, Resource Conservation and Recovery Act, solid waste, and waste characterization.)	Derived from 40 CFR 261
Heavy-haul truck	A truck that exceeds normally applicable vehicle weight limits for highway travel. State authorities may issue special permits allowing trucks to exceed weight limits in order to carry "nondivisible loads," such as spent nuclear fuel casks, on public highways. Roadways and bridges may need to be upgraded in order to carry such vehicles. (See legal-weight truck.) *It may be*	Derived from 23 CFR 658

TERM	DEFINITION	SOURCE
	appropriate to append information specific to the particular document, such as: As used in this environmental impact statement, heavy-haul truck means a truck with a gross vehicle weight (i.e., both the truck and cargo weight) of more than 129,000 pounds (58,500 kilograms). *Note: This specific terminology does not appear in the applicable Federal regulations.*	
Heavy metals	Metallic and semimetallic elements that are generally highly toxic to plants and animals and that tend to accumulate in food chains are referred to collectively as "heavy metals." Heavy metals include lead, mercury, cadmium, chromium, and arsenic. *Additional optional information:* Many metallic and semimetallic elements analyzed in environmental samples are often referred to collectively as "heavy metals." *(For example, EPA regulation 40 CFR 258.4 refers to the following monitoring parameters as "heavy metals": antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, and zinc.) Note: The term "heavy metals" is deeply embedded in environmental usage and will doubtless continue to be used. However, some of the elements commonly called "heavy metals" are not heavy (e.g., beryllium) or are not true metals (e.g., arsenic). Therefore, "heavy metals" should be avoided whenever more precise wording can be substituted.*	Derived from ESTD, 40 CFR 258.4
Heavy metal	In the context of nuclear technology, "heavy metal" means all uranium, plutonium, or thorium placed into a nuclear reactor. (See metric tons of heavy metal.)	Derived from 40 CFR 191.12
HEPA (High Efficiency Particulate Air) filter	An air filter capable of removing at least 99.97 percent of particles 0.3 micrometers (about 0.00001 inch) in diameter. These filters include a pleated fibrous medium (typically fiberglass) capable of capturing very small particles.	Derived from 40 CFR 61.152, 40 CFR 63.542, 40 CFR 763.83
High-level waste or High-level radioactive waste (HLW)	Defined by statute (the Nuclear Waste Policy Act) to mean the highly radioactive waste material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products nuclides in sufficient concentrations; and other highly radioactive material that the U.S. Nuclear Regulatory Commission (NRC), consistent with existing law, determines by rule requires permanent isolation. The NRC has not defined "sufficient concentrations" of fission products or identified "other highly radioactive material that requires permanent isolation." The NRC defines high-level radioactive waste (HLW) to mean irradiated (spent) reactor fuel, as well as liquid waste resulting from the operation of the first cycle solvent extraction system, the concentrated wastes from subsequent extraction cycles in a facility for reprocessing irradiated reactor fuel, and solids into which such liquid wastes have been converted. *For a specific NEPA document, an additional statement can be included. For example:* In this EIS "high-level waste" refers to [INSERT BRIEF	Derived from NWPA, NRC at 53 FR 17709 and 52 FR 5992, 10 CFR 60, NRC Glossary

TERM	DEFINITION	SOURCE
	EXPLANATION]. *Note: DOE usage generally follows the NWPA definition. Thus, "high-level radioactive waste" does not include spent nuclear fuel, but refers to liquid wastes from reprocessing of spent nuclear fuel and targets and the solid (vitrified) waste forms into which such liquid wastes are converted. It is desirable to provide the NRC definition, too, because it is used in NRC regulations that apply to geologic waste repositories and other facilities for management of commercial spent nuclear fuel and high-level waste. In some DOE NEPA documents this term refers only to liquid high-level waste or only to vitrified high-level waste.*	
Highly Enriched Uranium (HEU)	Uranium whose content of the fissile isotope uranium-235 has been increased through enrichment to 20 percent or more (by weight). (See natural uranium.) *Additional information may be needed in some EISs:* Highly enriched uranium can be used in making nuclear weapons and also as fuel for some isotope-production, research, naval propulsion, and power reactors.	Derived from 10 CFR 50.2
Incineration	Controlled burning of solid or liquid wastes to oxidize the combustible constituents and, especially for liquid wastes, to vaporize water, so as to reduce waste volume.	Derived from EPA Terms
Intensity (of an earthquake)	A measure of the effects (due to ground shaking) of an earthquake at a particular location, based on observed damage to structures built by humans, changes in the earth's surface, and reports of how people felt the earthquake. Earthquake intensity is measured in numerical units on the Modified Mercalli scale. [See Modified Mercalli Intensity scale and magnitude (of an earthquake).]	Derived from Bolt; 10 CFR 100, App. A
Interim status facility (under RCRA)	A hazardous waste management facility (i.e., treatment, storage, or disposal facility) subject to the permit requirements of the Resource Conservation and Recovery Act that was in existence on the effective date of the law or its implementing regulations. These facilities are considered to have been issued a permit on an interim basis if they have met requirements for notification and have submitted a permit application. Such facilities are required to meet the interim status standards described in 40 CFR Part 265 until they have been issued a final permit or until their interim status is withdrawn.	Derived from RCRA sect. 3005(e), 40 CFR 270 Subpart G
Intertie	A transmission line that links two or more regional electric power systems.	CCTC
Involved worker	Worker who would participate in a proposed action. (See noninvolved worker.)	Derived from Recommendations Book

TERM	DEFINITION	SOURCE
Irradiated	Exposed to ionizing radiation.	Derived from NRC Glossary, ANSI N1.1
	The condition of reactor fuel elements and other materials in which atoms bombarded with nuclear particles have undergone nuclear changes.	Derived from UI, MHE
Isotope	Any of two or more variations of an element in which the nuclei have the same number of protons (i.e., the same atomic number) but different numbers of neutrons so that their atomic masses differ. Isotopes of a single element possess almost identical chemical properties, but often different physical properties (e.g., carbon-12 and -13 are stable, carbon-14 is radioactive).	Derived from HPRH, EPA Terms, RHD
Latent cancer fatalities (LCF)	Deaths from cancer resulting from, and occurring some time after, exposure to ionizing radiation or other carcinogens.	
Legal-weight truck	A truck that meets vehicle weight limits for U.S. Interstate Highways. Under Federal regulations (23 CFR 658.17) the total loaded weight of a tractor-trailer combination is limited to 80,000 pounds (34,874 kilograms). Some states allow heavier vehicles on highways within the state. *Note: This specific terminology does not appear in the applicable Federal regulations.*	Derived from 23 CFR 658
Life cycle costs	1. All the anticipated costs associated with a project or program alternative throughout its life. This includes costs from pre-operations through operations or to the end of the alternative.	DOE G 430.1-1
	2. All costs, except the cost of personnel occupying the facility, incurred from the time that a space requirement is defined until that facility passes out of the government's hands.	DOE 6430.1A
Low-enriched uranium (LEU)	Uranium whose content of the fissile isotope uranium-235 has been increased through enrichment to more than 0.7 percent but less than 20 percent by weight. Most nuclear power reactor fuel contains low-enriched uranium containing 3 to 5 percent uranium-235.	Derived from 10 CFR 50.2
Lowest achievable emission rate (LAER)	The emissions rate permitted for new sources or major modifications of existing sources in areas that are not in attainment of National Ambient Air Quality Standards (NAAQS). The LAER is defined on a case-by-case basis, according to the regulations found in 40 CFR 51.165.	Derived from 40 CFR 51.165
Low-income population	Low-income populations, defined in terms of Bureau of the Census annual statistical poverty levels (Current Population Reports, Series P-60 on Income and Poverty), may consist of groups or individuals who live in geographic proximity to one another or who are geographically dispersed or transient (such as migrant workers or Native Americans), where either type of group experiences	Derived from CEQ EJ

TERM	DEFINITION	SOURCE
	common conditions of environmental exposure or effect. (See environmental justice and minority population.)	
Low-level radioactive waste or Low-level waste (LLW)	Radioactive waste that is not high-level waste, transuranic waste, spent nuclear fuel, or by-product tailings from processing of uranium or thorium ore. (See radioactive waste.) *Optional addition:* Low-level radioactive waste is generated in many physical and chemical forms and levels of contamination. *Note: If the document uses this term to mean only low-level waste that is subject to the AEA, it may be appropriate to add "accelerator-produced waste" and "naturally occurring radioactive material" to the list of exclusions.*	Derived from NWPA, DOE O 435.1, NRC glossary
Magnitude (of an earthquake)	A quantity characteristic of the total energy released by an earthquake, as contrasted to "intensity," which describes its effects at a particular place. Magnitude is determined by taking the common logarithm (base 10) of the largest ground motion recorded on a seismograph during the arrival of a seismic wave type and applying a standard correction factor for distance to the epicenter. Three common types of magnitude are Richter (or local) (M_L), P body wave (m_b), and surface wave (M_s). Additional magnitude scales, notably the moment magnitude (M_w), have been introduced to increase uniformity in representation of earthquake size. *Moment magnitude* is defined as the rigidity of the rock multiplied by the area of faulting multiplied by the amount of slip. A one-unit increase in magnitude (for example, from magnitude 6 to magnitude 7) represents a 30-fold increase in the amount of energy released. [See intensity (of an earthquake).]	Derived from AGI 76, Bolt
Maximally exposed individual (MEI)	A hypothetical individual whose location and habits result in the highest total radiological or chemical exposure (and thus dose) from a particular source for all exposure routes (e.g., inhalation, ingestion, direct exposure).	Derived from NCRP 93
Maximum achievable control technology (MACT)	Technology for achieving the maximum control of emissions from major sources of hazardous air pollutants, using particularly stringent control devices, as prescribed in 40 CFR 63.41 for new sources and in 40 CFR 63.51 for existing sources.	Derived from 40 CFR 63.41, 40 CFR 63.51
Maximum contaminant level (MCL)	The designation for U.S. Environmental Protection Agency standards for drinking water quality under the Safe Drinking Water Act. The maximum contaminant level for a given substance is the maximum permissible concentration of that substance in water delivered by a public water system. The primary MCLs (40 CFR Part 141) are intended to protect public health and are federally enforceable. They are based on health factors, but are also required by law to reflect the technological and economic feasibility of removing the contaminant from the water supply. Secondary MCLs (40 CFR Part 143) are set by the U.S. Environmental Protection Agency to protect the public welfare. The secondary drinking water	Derived from 40 CFR 141.2, 40 CFR 143.1, 40 CFR 143.2, EPA OPPT

TERM	DEFINITION	SOURCE
	regulations control substances in drinking water that primarily affect aesthetic qualities (such as taste, odor, and color) relating to the public acceptance of water. These regulations are not federally enforceable, but are intended as guidelines for the states.	
	Related term: Maximum contaminant level goal (MCLG) means the maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on the health of persons would occur, and which allows an adequate margin of safety. Maximum contaminant level goals are nonenforceable health goals.	40 CFR 141.2
Metric tons of heavy metal (MTHM)	Quantities of unirradiated and spent nuclear fuel and targets are traditionally expressed in terms of the initial weight in metric tons of uranium, plutonium, and thorium (collectively called "heavy metal") in the unirradiated fuel. Other fuel components, such as cladding, alloy materials, and structural materials, are not included. A metric ton is 1,000 kilograms, which is equal to about 2,200 pounds.	Derived from 40 CFR 191.12, OCRWM MP
Millirem (mrem)	One-thousandth of a rem (0.001 rem). (See rem.)	
Minority population	Minority populations exist where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than in the general population or other appropriate unit of geographic analysis (such as a governing body's jurisdiction, a neighborhood, census tract, or other similar unit). "Minority" refers to individuals who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic. "Minority populations" include either a single minority group or the total of all minority persons in the affected area. They may consist of groups of individuals living in geographic proximity to one another or a geographically dispersed/transient set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect. (See environmental justice and low-income population.)	Derived from CEQ EJ
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 environments.	40 CFR 1508.20
Mixed-oxide (MOX) fuel	Reactor fuel made with a physical blend of different fissionable materials, such as uranium dioxide (UO_2) and plutonium dioxide	

TERM	DEFINITION	SOURCE
	(PuO_2).	
Mixed waste	Waste that contains both hazardous waste, as defined under the Resource Conservation and Recovery Act, and source, special nuclear, or by-product material subject to the Atomic Energy Act.	Derived from FFCA
Modified Mercalli Intensity Scale	The Modified Mercalli Intensity Scale is a standard of relative measurement of earthquake intensity, developed to fit construction conditions in most of the United States. It is a 12-step scale, with values from I (not felt except by a very few people) to XII (damage total). A Modified Mercalli Intensity is a numerical value on the Modified Mercalli Scale. [See intensity (of an earthquake).] *Note: If this definition is listed, "intensity (of an earthquake)" must also be defined.*	Derived from AGI 76; Bolt; 10 CFR 100, App A.
National Ambient Air Quality Standards (NAAQS)	Standards defining the highest allowable levels of certain pollutants in the ambient air (i.e., the outdoor air to which the public has access). Because the Environmental Protection Agency must establish the criteria for setting these standards, the regulated pollutants are called *criteria* pollutants. Criteria pollutants include sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, lead, and two size classes of particulate matter, less than 10 micrometers (0.0004 inch) in diameter, and less than 2.5 micrometers (0.0001 inch) in diameter. Primary standards are established to protect public health; secondary standards are established to protect public welfare (e.g., visibility, crops, animals, buildings). (See criteria pollutant.)	Derived from EPA Terms, 40 CFR 50
National Emissions Standards for Hazardous Air Pollutants (NESHAPs)	Emissions standards set by the Environmental Protection Agency for air pollutants which are not covered by National Ambient Air Quality Standards (NAAQS) and which may, at sufficiently high levels, cause increased fatalities, irreversible health effects, or incapacitating illness. These standards are given in 40 CFR Parts 61 and 63. NESHAPs are given for many specific categories of sources (e.g., equipment leaks, industrial process cooling towers, dry cleaning facilities, petroleum refineries). (See hazardous air pollutants.)	Derived from EPA Terms, 40 CFR 61, 40 CFR 63
National Environmental Policy Act of 1969 (NEPA)	NEPA is the basic national charter for protection of the environment. It establishes policy, sets goals (in Section 101), and provides means (in Section 102) for carrying out the policy. Section 102(2) contains "action-forcing" provisions to ensure that Federal agencies follow the letter and spirit of the Act. For major Federal actions significantly affecting the quality of the human environment, Section 102(2)(C) of NEPA requires Federal agencies to prepare a detailed statement that includes the environmental impacts of the proposed action and other specified information.	Derived from 40 CFR 1500.1(a)
National Pollutant	A provision of the Clean Water Act which prohibits discharge of	Derived from

TERM	DEFINITION	SOURCE
Discharge Elimination System (NPDES)	pollutants into waters of the United States unless a special permit is issued by the Environmental Protection Agency, a state, or, where delegated, a tribal government on an Indian reservation. The NPDES permit lists either permissible discharges, the level of cleanup technology required for wastewater, or both.	EPA Glossary
National Priorities List (NPL)	The Environmental Protection Agency's (EPA's) list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The list is based primarily on the score a site receives from the Hazard Ranking System described in 40 CFR Part 300, Appendix A. EPA must update the NPL at least once a year. (See Comprehensive Environmental Response, Compensation, and Liability Act.)	Derived from EPA Terms
National Register of Historic Places	The official list of the Nation's cultural resources that are worthy of preservation. The National Park Service maintains the list under direction of the Secretary of the Interior. Buildings, structures, objects, sites, and districts are included in the National Register for their importance in American history, architecture, archeology, culture, or engineering. Properties included on the National Register range from large-scale, monumentally proportioned buildings to smaller scale, regionally distinctive buildings. The listed properties are not just of nationwide importance; most are significant primarily at the state or local level. Procedures for listing properties on the National Register are found in 36 CFR 60.	Derived from 106 SBS, 106 RV, NRHP
Natural uranium	Uranium with the naturally occurring distribution of uranium isotopes (approximately 0.7 weight percent uranium-235, and the remainder essentially uranium-238). (See uranium, depleted uranium, enriched uranium, highly enriched uranium, and low-enriched uranium.)	10 CFR 71, 49 CFR 173.403
Neutron radiation	The emission of neutrons from atomic nuclei. Neutrons are uncharged subatomic particles of nearly the same mass as protons. Interaction with atomic nuclei in matter results indirectly in ionization and thus an absorbed dose to biological material. Neutron bombardment of heavy nuclei (e.g., uranium, plutonium) can result in fission. Highly penetrating, neutrons can be stopped by thick masses of concrete, water or paraffin.	Derived from IAEA
Nonattainment area	An area that the U.S. Environmental Protection Agency has designated as not meeting (i.e., not being in attainment of) 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. [See attainment area, National Ambient Air Quality Standards (NAAQS), and particulate matter.]	Derived from EPA Terms

TERM	DEFINITION	SOURCE
Noninvolved worker	A worker who would be on the site of an action but would not participate in the action. (See involved worker.)	Recommendations Book
Nuclear facility	A facility that is subject to requirements intended to control potential nuclear hazards. Defined in DOE directives as any nuclear reactor or any other facility whose operations involve radioactive materials in such form and quantity that a significant nuclear hazard potentially exists to the employees or the general public.	Derived from DOE 6430.1A, DOE 5480.30
Overpack	In general, any container into which another container (usually a waste container) is placed. An overpack might be used to provide shielding and structural support (for example, during transportation), to provide additional physical containment for the contents of the inner container, or to enclose a damaged container. *Provide a document-specific definition if appropriate.*	
Particulate matter (PM), PM_{10}, $PM_{2.5}$	Any finely divided solid or liquid material, other than uncombined (i.e., pure) water. A subscript denotes the upper limit of the diameter of particles included. Thus, PM_{10} includes only those particles equal to or less than 10 micrometers (0.0004 inch) in diameter; $PM_{2.5}$ includes only those particles equal to or less than 2.5 micrometers (0.0001 inch) in diameter. *Note: The applicable regulations express the diameter as the aerodynamic diameter. This is not the true diameter, but is the diameter of a spherical particle of unit density (i.e., 1 gram/cubic centimeter) which behaves the same way as the particle under consideration. Thus, for example, a spherical particle 10 micrometers in diameter with greater than unit density would not be included as PM-10 because it would fall at the same rate as a particle with unit density and diameter greater than 10 micrometers.*	Derived from EPA Terms, 40 CFR 50, 40 CFR 61.171
Performance assessment	*In general:* An analysis that predicts the behavior of a system or system component under a given set of conditions.	Derived from 10 CFR 960.2
	In the context of DOE waste management activities: A systematic analysis of the potential risks posed by waste management systems to the public and environment, and a comparison of those risks to established performance objectives.	Derived from DOE 5820.2A
	As defined in EPA regulation 40 CFR 191.12: An analysis that: (1) identifies the processes and events that might affect the disposal system; (2) examines the effects of these processes and events on the performance of the disposal system; and (3) estimates the cumulative releases of radionuclides, considering the associated uncertainties, caused by all significant processes and events.	Derived from 40 CFR 191.12
Person-rem	A unit of collective radiation dose applied to populations or groups of individuals (see collective dose); that is, a unit for expressing the dose when summed across all persons in a specified population or	Derived from BEIR III 10 CFR 835.2

TERM	DEFINITION	SOURCE
	group. One person-rem equals 0.01 person-sieverts (Sv).	
pH	A measure of the relative acidity or alkalinity of a solution, expressed on scale from 0 to 14, with the neutral point at 7.0. Acid solutions have pH values lower than 7.0, and basic (i.e., alkaline) solutions have pH values higher than 7.0. *Where further discussion would be helpful, add:* Because pH is the negative logarithm of the hydrogen ion (H^+) concentration, each unit increase in pH value expresses a change of state of 10 times the preceding state. Thus, pH 5 is 10 times more acidic than pH 6, and pH 9 is 10 times more alkaline than pH 8.	Derived from ESTD, EE&S
Picocurie	One trillionth (10^{-12}) of a curie. (See curie.)	
Pit	The core element of a nuclear weapon's "primary" or fission component. The pit contains a potentially critical mass of fissile material, such as plutonium-239 or highly enriched uranium, arranged in a subcritical geometry and surrounded by some type of casing.	Derived from DOE O 452.1A, DOE O 452.2A,
Plume	The elongated volume of contaminated water or air originating at a pollutant source such as an outlet pipe or a smokestack. A plume eventually diffuses into a larger volume of less contaminated material as it is transported away from the source.	Derived from EPA Terms
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.	Derived from NRC Glossary, AHD
Pollution prevention	The use of materials, processes, and practices that reduce or eliminate the generation and release of pollutants, contaminants, hazardous substances, and waste into land, water, and air. For the Department of Energy, this includes recycling activities. (See waste minimization.)	DOE P4
Polychlorinated biphenyls (PCBs)	Any compound or a mixture of compounds of a family of chlorinated organic chemicals that were formerly manufactured for use as coolants and lubricants in transformers, capacitors, and other electrical equipment. The manufacture of PCBs stopped in the United States in 1977 because of evidence that they build up in the environment and cause harmful effects. PCBs in water, for example, build up in fish and marine mammals and can reach levels thousands of times higher than the levels in water. It is not known whether PCBs cause cancer in people, but the Department of Health and Human Services has determined that PCBs may reasonably be anticipated to be carcinogens. The Environmental Protection Agency has classified all PCBs as Group B2, possible	Derived from ATSDR, EPA IRIS

TERM	DEFINITION	SOURCE
	human carcinogens.	
Prevention of significant deterioration (of air quality) (PSD)	Regulations established to prevent significant deterioration of air quality in areas that already meet National Ambient Air Quality Standards (NAAQS). Specific details of PSD are found in 40 CFR 51.166. Among other provisions, cumulative increases in sulfur dioxide, nitrogen dioxide, and PM-10 levels after specified baseline dates must not exceed specified maximum allowable amounts. These allowable increases, also known as increments, are especially stringent in areas designated as Class I areas (e.g., national parks, wilderness areas) where the preservation of clean air is particularly important. All areas not designated as Class I are currently designated as Class II. Maximum increments in pollutant levels are also given in 40 CFR 51.166 for Class III areas, if any such areas should be so designated by EPA. Class III increments are less stringent than those for Class I or Class II areas. [See National Ambient Air Quality Standards (NAAQS).]	Derived from 40 CFR 51.166
Quality factor	A multiplying factor applied to absorbed dose to express the biological effectiveness of the radiation producing it. The numerical values of quality factor are given as a function of the linear energy transfer in water for the radiation producing the absorbed dose.	NCRP 94
Rad	A unit of radiation absorbed dose (e.g., in body tissue). One rad is equal to an absorbed dose of 0.01 joule / kilogram (1 rad = 0.01 gray). (The joule is the SI unit of energy, abbreviated as J.)	Derived from 10 CFR 20.1004
Radiation (ionizing)	Particles (alpha, beta, neutrons, and other subatomic particles) or photons (i.e., gamma, x-rays) emitted from the nucleus of unstable atoms as a result of radioactive decay. Such radiation is capable of displacing electrons from atoms or molecules in the target material (such as biological tissues), thereby producing ions.	NRC Glossary
Radioactive waste	In general, waste that is managed for its radioactive content. Waste material that contains source, special nuclear, or by-product material is subject to regulation as radioactive waste under the Atomic Energy Act. Also, waste material that contains accelerator-produced radioactive material or a high concentration of naturally occurring radioactive material may be considered radioactive waste.	Derived from DOE O 435.1, DOE 5820.2A
Radioactivity	*Defined as a process:* The spontaneous transformation of unstable atomic nuclei, usually accompanied by the emission of ionizing radiation.	Derived from NCRP 65
	Defined as a property: The property of unstable nuclei in certain atoms to spontaneously emit ionizing radiation during nuclear transformations.	Derived from BEIR III, RHH, ASD

TERM	DEFINITION	SOURCE
Radioisotope or radionuclide	An unstable isotope that undergoes spontaneous transformation, emitting radiation. (See isotope.)	HPRH
Reasonably achievable control technology (RACT)	Technology for control of pollutant emissions from existing sources in areas that are not in attainment of National Ambient Air Quality Standards (NAAQS). RACT may include devices, systems, process modifications, or other apparatus or techniques that are reasonably achievable taking into account: (1) the necessity of imposing such controls in order to attain and maintain a NAAQS; (2) the social, environmental, and economic impact of such controls; and (3) alternative means of providing for attainment and maintenance of such a standard. [See National Ambient Air Quality Standards (NAAQS).]	Derived from 40 CFR 51.100(o)
Record of decision (ROD)	A concise public document that records a federal agency's decision(s) concerning a proposed action for which the agency has prepared an environmental impact statement (EIS). The ROD is prepared in accordance with the requirements of the Council on Environmental Quality NEPA regulations (40 CFR 1505.2). A ROD identifies the alternatives considered in reaching the decision, the environmentally preferable alternative(s), factors balanced by the agency in making the decision, whether all practicable means to avoid or minimize environmental harm have been adopted, and if not, why they were not. (See environmental impact statement.)	Derived from 40 CFR 1505.2
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. Derived from "roentgen equivalent man," referring to the dosage of ionizing radiation that will cause the same biological effect as one roentgen of X-ray or gamma-ray exposure. One rem equals 0.01 sievert. (See absorbed dose, dose equivalent, and quality factor.)	Derived from DOE 6430.1A, HPRH, ANSI N1.1
Remote-handled waste	In general, refers to radioactive waste that must be handled at a distance to protect workers from unnecessary exposure. "Remote-handled transuranic waste" means transuranic waste with a dose rate of 200 millirem per hour or more at the surface of the waste package. (See contact-handled waste.)	Derived from WIPP LWA, DOE 5820.2A
Resource Conservation and Recovery Act (RCRA)	A law that gives the Environmental Protection Agency the authority to control hazardous waste from "cradle to grave" (i.e., from the point of generation to the point of ultimate disposal), including its minimization, generation, transportation, treatment, storage, and disposal. RCRA also sets forth a framework for the management of non-hazardous solid wastes. (See hazardous waste and solid waste.)	Derived from EPA OPPT
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 that	Derived from Suter, DOE 5480.30,

TERM	DEFINITION	SOURCE
	event (i.e., the product of these two factors). However, separate presentation of probability and consequence is often more informative.	Recommendations Book
Safe Secure Trailer (SST)	A specially modified semi-trailer, pulled by an armored tractor truck, which DOE uses to transport nuclear weapons, nuclear weapons components, or special nuclear material over public highways.	Derived from DOE 5610.12
Safety analysis report (SAR)	A report that systematically identifies potential hazards within a nuclear facility, describes and analyzes the adequacy of measures to eliminate or control identified hazards, and analyzes potential accidents and their associated risks. Safety analysis reports are used to ensure that a nuclear facility can be constructed, operated, maintained, shut down, and decommissioned safely and in compliance with applicable laws and regulations. Safety analysis reports are required for DOE nuclear facilities and as a part of applications for Nuclear Regulatory Commission licenses. The NRC regulations or DOE Orders and Technical Standards that apply to the facility type provide specific requirements for the content of safety analysis reports. (See nuclear facility.)	Derived from DOE 5480.23; 10 CFR Parts 2, 50, 52, 60, 72, and 76
Scoping	An early and open process for determining the scope of issues to be addressed in an environmental impact statement (EIS) and for identifying the significant issues related to a proposed action. *Additional optional information:* The scoping period begins after publication in the *Federal Register* of a Notice of Intent (NOI) to prepare an EIS. The *public scoping process* is that portion of the process where the public is invited to participate. DOE also conducts an early *internal* scoping process for environmental assessments (EAs) or EISs. For EISs, this internal scoping process precedes the public scoping process. DOE's scoping procedures are found in 10 CFR 1021.311.	Derived from 40 CFR 1501.7, 10 CFR 1021.104, DOE NEPA
Sievert	The SI (International System of Units) unit of radiation dose equivalent. The dose equivalent in sieverts equals the absorbed dose in grays multiplied by the appropriate quality factor (1 Sv = 100 rem). (See gray.)	Derived from 10 CFR 20.1004

TERM	DEFINITION	SOURCE
Solid waste	1. In general, solid wastes are non-liquid, non-soluble discarded materials ranging from municipal garbage to industrial wastes that contain complex and sometimes hazardous substances. Solid wastes include sewage sludge, agricultural refuse, demolition wastes, and mining residues.	Derived from EPA Terms
	2. For purposes of regulation under the Resource Conservation and Recovery Act, solid waste is any garbage; refuse; sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility; and other discarded material. Solid waste includes solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations and from community activities. Solid waste does not include solid or dissolved material in domestic sewage or irrigation return flows or industrial discharges which are point sources subject to permits under Section 402 of the Clean Water Act. Finally, solid waste does not include source, special nuclear, or by-product material as defined by the Atomic Energy Act. A more detailed regulatory definition of solid waste can be found in 40 CFR 261.2. (See hazardous waste and Resource Conservation and Recovery Act.)	Derived from RCRA sect. 1004
Source material	In general, material from which special nuclear material can be derived. Under the Atomic Energy Act and Nuclear Regulatory Commission regulations, "source material" means uranium and thorium in any physical or chemical form, as well as ores which contain one-twentieth of one percent (0.05%) or more by weight of uranium or thorium. (See special nuclear material.)	Derived from AEA, 10 CFR 20
Source term	The amount of a specific pollutant (e.g., chemical, radionuclide) emitted or discharged to a particular environmental medium (e.g., air, water) from a source or group of sources. It is usually expressed as a rate (i.e., amount per unit time).	Derived from TM, Suter
Special nuclear material (SNM)	A category of material subject to regulation under the Atomic Energy Act, consisting primarily of fissile materials. It is defined to mean plutonium, uranium-233, uranium enriched in the isotopes uranium-233 or -235, and any other material that the Nuclear Regulatory Commission determines to be special nuclear material, but it does not include source material.	Derived from AEA, DOE 5610.12, 10 CFR 20, NRC Glossary, MH
Spent nuclear fuel	Fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not been separated. *Note: 10 CFR 960 and 40 CFR 191 give essentially the same definition, but add "by reprocessing" after "have not been separated." We do not recommend including this additional language in NEPA document glossaries, as it unnecessarily raises questions concerning the meaning of "reprocessing."*	NWPA
Stability class	A category characterizing the degree of stability, or absence of turbulence, in the atmosphere. The classification used for regulatory models and methods for estimating the appropriate	Derived from EPA 1987

TERM	DEFINITION	SOURCE
	stability category from other meteorological data are given by EPA (1987). The least stable category is class A, in which the high level of turbulence causes air pollutants from any particular source to mix rapidly with surrounding air, thereby reducing pollutant concentrations. The most stable category is class F, in which pollutants are not well mixed but remain in relatively high concentrations within a smaller volume. Sometimes a seventh category (i.e., G, or extremely stable) is used to represent extremely stagnant conditions.	
Stockpile management	Operations associated with production, maintenance, refurbishment, surveillance, and dismantlement of the U.S. nuclear weapons stockpile. *Related term:* Stockpile surveillance: Routine and periodic examination, evaluation, and testing of nuclear weapons and weapon components to ensure that they conform to performance specifications and to identify and evaluate the effect of unexpected or age-related requirements.	
Stockpile stewardship	Activities associated with research, design, development, and testing of nuclear weapons and the assessment and certification of their safety and reliability.	
Surface water	All bodies of water on the surface of the earth and open to the atmosphere, such as rivers, lakes, reservoirs, ponds, seas, and estuaries.	Derived from MH, 40 CFR 141.2
Threatened species	Any plants or animals that are likely to become endangered species within the foreseeable future throughout all or a significant portion of their ranges and which have been listed as threatened by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service following the procedures set out in the Endangered Species Act and its implementing regulations (50 CFR 424). (See endangered species.) The lists of threatened species can be found at 50 *CFR* 17.11 (wildlife), 17.12 (plants), and 227.4 (marine organisms). *Note: Some states also list species as threatened. Thus, in certain cases a state definition would also be appropriate.*	Derived from 50 CFR 17.3, 50 CFR 424.02(m)
Total effective dose equivalent (TEDE)	The sum of the effective dose equivalent (for external exposures) and the committed effective dose equivalent (for internal exposures). (See effective dose equivalent and committed effective dose equivalent.)	Derived from 10 CFR 835.2
Transuranic	Refers to any element whose atomic number is higher than that of uranium (atomic number 92), including neptunium, plutonium, americium, and curium. *Additional optional information:* All transuranic elements are produced artificially and are radioactive.	Derived from AEA
Transuranic (TRU) waste	Radioactive waste that is not classified as high-level radioactive waste and that contains more than 100 nanocuries (3700 becquerels) per gram of alpha-emitting transuranic isotopes	Derived from 40 CFR 191.02, WIPP LWA

TERM	DEFINITION	SOURCE
	with half-lives greater than 20 years.	
Tritium	A radioactive isotope of hydrogen whose nucleus contains one proton and two neutrons. The symbols for tritium are T and ^{3}H; the latter symbol is more frequently encountered. *If appropriate to the context add:* Used in thermonuclear weapons.	
Type A packaging	A regulatory category of packaging for transportation of radioactive materials. Type A packaging must be designed and demonstrated to retain its containment and shielding integrity under normal conditions of transport. Examples of Type A packaging include 0.21-m^3 (55-gallon) drums and standard waste boxes. Type A packaging is used to transport materials with low radioactivity levels, and usually does not require special handling, packaging, or transportation equipment. (See Type B packaging.)	Derived from 10 CFR 71, 49 CFR 173 Subpart I
Type B packaging	A regulatory category of packaging for transportation of radioactive material. The U.S. Department of Transportation and Nuclear Regulatory Commission require Type B packaging for shipping highly radioactive material. Type B packages must be designed and demonstrated to retain their containment and shielding integrity under severe accident conditions, as well as under the normal conditions of transport. The current NRC testing criteria for Type B package designs (10 CFR Part 71) are intended to simulate severe accident conditions, including impact, puncture, fire, and immersion in water. The most widely recognized Type B packages are the massive casks used for transporting spent nuclear fuel. Large-capacity cranes and mechanical lifting equipment are usually needed to handle Type B packages. (See Type A packaging.) *Note: The Nuclear Regulatory Commission calls this "Type B packaging" and defines a "Type B package" as "a Type B packaging together with its radioactive contents." Draft DOE M 435.1 defines "packaging" similarly to the NRC, as "A receptacle and any other components or materials necessary for the receptacle to perform its required containment function," and defines "package" as "Any packaging plus its contents."*	Derived from 10 CFR 71, 49 CFR 173 Subpart I
Uranium	A radioactive, metallic element with the atomic number 92; the heaviest naturally occurring element. Uranium has 14 known isotopes, of which uranium-238 is the most abundant in nature. Uranium-235 is commonly used as a fuel for nuclear fission. (See natural uranium, enriched uranium, and depleted uranium.)	Derived from AHD, UI, NRC Glossary
Waste characterization	The identification of waste composition and properties by reviewing process knowledge, nondestructive examination, nondestructive assay, or sampling and analysis. Characterization provides the basis for determining appropriate storage, treatment, handling, transportation, and disposal requirements.	Derived from DOE Glossary

TERM	DEFINITION	SOURCE
Waste Isolation Pilot Plant (WIPP)	A U.S. Department of Energy facility designed and authorized to permanently dispose of transuranic radioactive waste in a mined underground facility in deep geologic salt beds. It is located in southeastern New Mexico, 26 miles (42 km) east of the city of Carlsbad.	Derived from DOE CAO
Waste minimization	Actions that economically avoid or decrease waste production by reducing waste generation at the source, reducing the toxicity of hazardous waste, improving efficiency of energy usage, or recycling wastes.	Derived from DOE P4
Weighting factor	Generally, a method of attaching different importance values to different items or characteristics. In the context of radiation protection, the proportion of the risk of effects resulting from irradiation of a particular organ or tissue to the total risk of effects when the whole body is irradiated uniformly (e.g., the organ dose weighting factor for the lung is 0.12, compared to 1.0 for the whole body). Weighting factors are used for calculating the effective dose equivalent.	Derived from 10 CFR 20.1003
Wetlands	Those areas that are inundated by surface or groundwater with a frequency sufficient to support, and under normal circumstances do or would support, a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas (e.g., sloughs, potholes, wet meadows, river overflow areas, mudflats, natural ponds).	10 CFR 1022.4
	Jurisdictional wetlands are those wetlands protected by the Clean Water Act. They must have a minimum of one positive wetland indicator from each parameter (i.e., vegetation, soil, and hydrology). The U.S. Army Corps of Engineers requires a permit to fill or dredge jurisdictional wetlands.	COE
Whole-body dose	The dose resulting from exposing the entire body to radiation.	Derived from NRC Glossary
Wind rose	A circular diagram showing, for a specific location, the percentage of the time the wind is from each compass direction. A wind rose for use in assessing consequences of airborne releases also shows the frequency of different wind speeds for each compass direction.	Derived from GLM
X-rays	Penetrating electromagnetic radiation having a wavelength much shorter than that of visible light. X-rays are identical to gamma rays, but originate outside the nucleus, either when the inner orbital electrons of an excited atom return to their normal state or when a metal target is bombarded with high-speed electrons.	Derived from HPRH, NCRP 65

Key to Sources Cited in Glossary of Terms Used in DOE NEPA Documents

10 CFR 2 = Title 10, Code of Federal Regulations, Part 2: *Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders.* U.S. Nuclear Regulatory Commission. 10 CFR 20 = Title 10, Code of Federal Regulations, Part 20: *Standards for Protection Against Radiation*. U.S. Nuclear Regulatory Commission. 10 CFR 50 = Title 10, Code of Federal Regulations, Part 50: *Domestic Licensing of Production and Utilization Facilities*. U.S. Nuclear Regulatory Commission. 10 CFR 60 = Title 10, Code of Federal Regulations, Part 60: *Disposal of High-Level Radioactive Wastes in Geologic Repositorie*s. U.S. Nuclear Regulatory Commission. 10 CFR 61 = Title 10, Code of Federal Regulations, Part 61: *Licensing Requirements for Land Disposal of Radioactive Waste.* U.S. Nuclear Regulatory Commission. 10 CFR 71 = Title 10, Code of Federal Regulations, Part 71: *Packaging and Transportation of Radioactive Material.* U.S. Nuclear Regulatory Commission. 10 CFR 72 = Title 10, Code of Federal Regulations, Part 72: *Licensing Requirements for the Independent Storage of Spent Nuclear Fuel and High-Level Radioactive Waste.* U.S. Nuclear Regulatory Commission. 10 CFR 76 = Title 10, Code of Federal Regulations, Part 76: *Certification of Gaseous Diffusion Plants.* U.S. Nuclear Regulatory Commission. 10 CFR 100, Appendix A = Title 10, Code of Federal Regulations, Part 100: *Reactor Site Criteria, Appendix A: Seismic and Geologic Siting Criteria for Nuclear Power Plants.* U.S. Nuclear Regulatory Commission. 10 CFR 835 = Title 10, Code of Federal Regulations, Part 835: *Occupational Radiation Protection.* U.S. Department of Energy. 10 CFR 960 = Title 10, Code of Federal Regulations, Part 960: *General Guidelines for the Recommendation of Sites for Nuclear Waste Repositories.* U.S. Department of Energy. 10 CFR 962 = Title 10, Code of Federal Regulations, Part 962: *Byproduct Material.* U.S. Department of Energy. 10 CFR 1021 = Title 10, Code of Federal Regulations, Part 1021: *National Environmental Policy Act Implementing Procedures.* U.S. Department of Energy. 10 CFR 1022 = Title 10, Code of Federal Regulations, Part 1022: *Compliance with Floodplain/Wetlands Environmental Review Requirements.* U.S. Department of Energy. 23 CFR 658 = Title 23, Code of Federal Regulations, Part 658: *Truck Size and Weight, Route Designations - Length, Width and Weight Limitations.* Federal Highway Administration. U.S. Department of Transportation. 40 CFR 50 = Title 40, Code of Federal Regulations, Part 50: *National Primary and Secondary Ambient Air Quality Standards.* U.S. Environmental Protection Agency. 40 CFR 51 = Title 40, Code of Federal Regulations, Part 51: *Requirements for Preparation, Adoption, and Submittal of Implementation Plans.* U.S. Environmental Protection Agency. 40 CFR 57 = Title 40, Code of Federal Regulations, Part 57: *Primary Nonferrous Smelter Orders.* U.S. Environmental Protection Agency. 40 CFR 61 = Title 40, Code of Federal Regulations, Part 61: *National Emission Standards for Hazardous Air Pollutants.* U.S. Environmental Protection Agency. 40 CFR 63 = Title 40, Code of Federal Regulations, Part 63: *National Emission Standards for Hazardous Air Pollutants for Source Categories.* U.S. Environmental Protection Agency. 40 CFR 122 = Title 40, Code of Federal Regulations, Part 122: *EPA Administered Permit Programs: The National Pollutant Discharge Elimination System.* U.S. Environmental Protection Agency. 40 CFR 141 = Title 40, Code of Federal Regulations, Part 141: *National Primary Drinking Water Regulations.* U.S. Environmental Protection Agency. 40 CFR 143 = Title 40, Code of Federal Regulations, Part 143: *National Secondary Drinking Water Regulations*. U.S. Environmental Protection Agency. 40 CFR 144 = Title 40, Code of Federal Regulations, Part 144: *Underground Injection Control Program.* U.S. Environmental Protection Agency. 40 CFR 146 = Title 40, Code of Federal Regulations, Part 146: *Underground Injection Control Program: Criteria and Standards.* U.S. Environmental Protection Agency. 40 CFR 149 = Title 40, Code of Federal Regulations, Part 149: *Sole Source Aquifers.* U.S. Environmental Protection Agency. 40 CFR 191 = Title 40, Code of Federal Regulations, Part 191: *Environmental Radiation Protection Standards for Management And Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes.* U.S. Environmental Protection Agency. 40 CFR 192 = Title 40, Code of Federal Regulations, Part 192: *Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings.* U.S. Environmental Protection Agency. 40 CFR 232 = Title 40, Code of Federal Regulations, Part 232: *404 Program Definitions; Exempt Activities Not Requiring 404 Permits.* U.S. Environmental Protection Agency. 40 CFR 258 = Title 40, Code of Federal Regulations, Part 258: *Criteria for Municipal Solid Waste Landfills.* U.S. Environmental Protection Agency. 40 CFR 260 = Title 40, Code of Federal Regulations, Part 260: *Hazardous Waste Management System: General.* U.S. Environmental Protection Agency. 40 CFR 261 = Title 40, Code of Federal Regulations, Part 261: *Identification and Listing of Hazardous Waste.* U.S. Environmental Protection Agency. 40 CFR 264 = Title 40, Code of Federal Regulations, Part 264: *Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities.* U.S. Environmental Protection Agency. 40 CFR 265 = Title 40, Code of Federal Regulations, Part 265: *Interim Status Standards for*

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U.S. Environmental Protection Agency. 40 CFR 270 = Title 40, Code of Federal Regulations, Part 270: *EPA Administered Permit Programs: The Hazardous Waste Permit Program.* U.S. Environmental Protection Agency. 40 CFR 280 = Title 40, Code of Federal Regulations, Part 280: *Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST).* U.S. Environmental Protection Agency. 40 CFR 300 = Title 40, Code of Federal Regulations, Part 300: *National Oil and Hazardous Substances Pollution Contingency Plan.* U.S. Environmental Protection Agency. 40 CFR 763 = Title 40, Code of Federal Regulations, Part 763: *Asbestos.* U.S. Environmental Protection Agency. 40 CFR 1500 = Title 40, Code of Federal Regulations, Part 1500: *Purpose, Policy, and Mandate.* Council on Environmental Quality. 40 CFR 1501 = Title 40, Code of Federal Regulations, Part 1501: *NEPA and Agency Planning.* Council on Environmental Quality. 40 CFR 1502 = Title 40, Code of Federal Regulations, Part 1502: *Environmental Impact Statement.* Council on Environmental Quality. 40 CFR 1505 = Title 40, Code of Federal Regulations, Part 1505: *NEPA and Agency Decisionmaking.* Council on Environmental Quality. 40 CFR 1508 = Title 40, Code of Federal Regulations, Part 1508: *Terminology and Index.* Council on Environmental Quality. 49 CFR 173 = Title 49, Code of Federal Regulations, Part 173: *Shippers-General Requirements for Shipments and Packagings.* U.S. Department of Transportation. 50 CFR 17 = Title 50, Code of Federal Regulations, Part 17: *Endangered and Threatened Wildlife and Plants.* U.S. Fish and Wildlife Service. 50 CFR 402 = Title 50, Code of Federal Regulations, Part 402: *Interagency Cooperation - Endangered Species Act of 1973, as Amended.* U.S. Fish and Wildlife Service; National Marine Fisheries Service. 50 CFR 424 = Title 50, Code of Federal Regulations, Part 424: *Listing Endangered and Threatened Species and Designating Critical Habitat.* U.S. Fish and Wildlife Service; National Marine Fisheries Service. 52 FR 5992 = U.S. Nuclear Regulatory Commission. 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