

WAC 173-340-200 Definitions. For the purpose of this chapter, the following definitions apply unless the context clearly requires otherwise:

"Acute toxicity" means the ability of a hazardous substance to cause injury or death to an organism as a result of a short-term exposure to a hazardous substance.

"Agreed order" means an order issued by ecology under WAC 173-340-530 with which the potentially liable person receiving the order agrees to comply. An agreed order may be used to require or approve any cleanup or other remedial actions, but it is not a settlement under RCW 70A.305.040(4) and does not contain a covenant not to sue, or provide protection from claims for contribution, or provide eligibility for public funding of remedial actions under RCW 70A.305.190 (4) (a) (v) and (vi).

"Aliphatic hydrocarbons" or **"aliphatics"** means organic compounds that are characterized by a straight, branched, or cyclic (nonbenzene ring) arrangement of carbon atoms and that do not contain halogens (such as chlorine). See also "aromatic hydrocarbons."

"All practicable methods of treatment" means all technologies or methods currently available and demonstrated to work under similar site circumstances or through pilot studies, and applicable to the site at reasonable cost. These include "all known available and reasonable methods of treatment" (AKART) for discharges or potential discharges to waters of the state, and "best available control technologies" (BACT) for releases of hazardous substances into the air resulting from cleanup actions.

"Applicable state and federal laws" means all legally applicable requirements specified in WAC 173-340-710(3) and those requirements that ecology determines, based on the criteria in WAC 173-340-710 (4), are relevant and appropriate requirements.

"Area background" means the concentration of a hazardous substance consistently present in the environment in the vicinity of a site as the result of human activities unrelated to releases from that site. Compare "natural background."

"Aromatic hydrocarbons" or **"aromatics"** means organic compounds that are characterized by one or more benzene rings, with or without aliphatic hydrocarbon substitutions of hydrogen atoms on the rings, and that do not contain halogens (such as chlorine). See also "aliphatic hydrocarbons."

"Averaging time" means the time over which the exposure is averaged. For noncarcinogens, the averaging time typically equals the exposure duration. For carcinogens, the averaging time equals the life expectancy of a person.

"Bioconcentration factor" means the ratio of the concentration of a hazardous substance in the tissue of an aquatic organism divided by the hazardous substance concentration in the ambient water in which the organism resides.

"Carcinogen" means any substance or agent that produces or tends to produce cancer in humans. For implementation of this chapter, the term carcinogen applies to substances on the United States Environmental Protection Agency lists of A (known human) and B (probable human) carcinogens, and any substance that causes a significant increased incidence of benign or malignant tumors in a single, well conducted animal bioassay, consistent with the weight of evidence approach specified in the United States Environmental Protection Agency's Guidelines for Carcinogen Risk Assessment as set forth in 51 FR 33992 et seq.

"Carcinogenic potency factor" or "CPF" means the upper 95th percentile confidence limit of the slope of the dose-response curve and is expressed in units of (mg/kg-day)⁻¹. When derived from human epidemiological data, the carcinogenic potency factor may be a maximum likelihood estimate.

"Chronic reference dose" means an estimate (with an uncertainty spanning an order of magnitude or more) of a daily exposure level for the human population, including sensitive subpopulations, that is likely to be without an appreciable risk of adverse effects during a lifetime.

"Chronic toxicity" means the ability of a hazardous substance to cause injury or death to an organism resulting from repeated or constant exposure to the hazardous substance over an extended period of time.

"Cleanup" means the implementation of a cleanup action or interim action.

"Cleanup action" means any remedial action, except interim actions, taken at a site to eliminate, render less toxic, stabilize, contain, immobilize, isolate, treat, destroy, or remove a hazardous substance that complies with WAC 173-340-350 through 173-340-390.

"Cleanup action alternative" means one or more treatment technology, containment action, removal action, engineered control, institutional control or other type of remedial action ("cleanup action components") that, individually or, in combination, achieves a cleanup action at a site.

"Cleanup action plan" means the document prepared under WAC 173-340-380 that documents the selected cleanup action and specifies the cleanup standards and other requirements the cleanup action must meet.

"Cleanup level" means the concentration of a hazardous substance in soil, water, air, or sediment that is determined to be protective of human health and the environment under specified exposure conditions.

"Cleanup standards" means the standards adopted under RCW 70A.305.030 (2)(e). Establishing cleanup standards requires specification of the following:

(a) Hazardous substance concentrations that protect human health and the environment ("cleanup levels");

(b) The location on the site where those cleanup levels must be attained ("points of compliance"); and

(c) Additional regulatory requirements that apply to a cleanup action because of the type of action and/or the location of the site. These requirements are specified in applicable state and federal laws and are generally established in conjunction with the selection of a specific cleanup action.

"Cohen's method" means the maximum likelihood estimate of the mean and standard deviation accounting for data below the method detection limit or practical quantitation limit using the method described in the following publications:

(a) Cohen, A.C., 1959. "Simplified estimators for the normal distribution when samples are singly censored or truncated." *Technometrics*. Volume 1, pages 217-237.

(b) Cohen, A.C., 1961. "Tables for maximum likelihood estimates: Singly truncated and singly censored samples." *Technometrics*. Volume 3, pages 535-541.

"Compliance monitoring" means a remedial action that consists of the monitoring described in WAC 173-340-410, including protection monitoring, performance monitoring, and confirmation monitoring.

"Conceptual site model" means a conceptual understanding of a site that identifies known or suspected:

- (a) Hazardous substance sources and release mechanisms;
- (b) Hazardous substance types and concentrations;
- (c) Hazardous substance transport, including preferential pathways;
- (d) Contaminated environmental media, including the general extent and distribution of contamination within the media;
- (e) Current and potential human and ecological receptors and exposure pathways (complete and incomplete); and
- (f) Physical and habitat features, including current and potential future land and water uses and any sensitive environments.

This model is typically developed during the scoping of a remedial investigation and further refined as additional information is collected about the site during the remedial investigation. The model is a tool used to assist in making decisions at a site.

"Conducting land use planning under chapter 36.70A RCW" as used in the definition of "industrial properties," means having adopted a comprehensive plan and development regulations for the site under chapter 36.70A RCW (Growth Management Act).

"Confirmation monitoring" means a type of compliance monitoring described in WAC 173-340-410.

"Containment" means a container, vessel, barrier, or structure, whether natural or constructed, that confines a hazardous substance within a defined boundary and prevents or minimizes its release into the environment.

"Contaminant" means any hazardous substance that does not occur naturally or occurs at greater than natural background levels.

"Contaminated site" means a site for which ecology or PLIA has determined further remedial action is necessary under the state clean-up law to:

- (a) Confirm whether there is a threat to human health or the environment posed by a release or threatened release; or
- (b) Address the threat posed by a release or threatened release, based on the criteria in WAC 173-340-330(5).

A contaminated site is referred to as hazardous waste site in chapter 70A.305 RCW.

"Contaminated sites list" means a list of contaminated sites maintained by ecology under WAC 173-340-330. For each listed site, the list also identifies the site's current remedial action status. This list is referred to as the hazardous sites list in chapter 70A.305 RCW.

"Curie" means the measure of radioactivity defined as that quantity of radioactive material which decays at the rate of 3.70×10^{10} transformations per second. This decay rate is nearly equivalent to that exhibited by 1 gram of radium in equilibrium with its disintegration products.

"Day" means calendar day; however, any document due on the weekend or a holiday may be submitted on the first working day after the weekend or holiday.

"Decree" means a consent decree issued under WAC 173-340-520. "Consent decree" is synonymous with decree.

"Degradation by-products" or **"decomposition by-products"** means the secondary product of biological or chemical processes that break down chemicals into other chemicals. The decomposition by-products may be more or less toxic than the parent compound.

"Developmental reference dose" means an estimate (with an uncertainty of an order of magnitude or more) of an exposure level for the human population, including sensitive subgroups, that is likely to be without an appreciable risk of developmental effects.

"Direct contact" means exposure to hazardous substances through ingestion and/or dermal contact.

"Director" means the director of the department of ecology or the director's designee.

"Disposal" means the discharging, discarding, or abandoning of hazardous substances or the treatment, decontamination, or recycling of such substances once they have been discarded or abandoned. This includes the discharge, discard, or abandonment of any hazardous substances into or on any land, air, or water.

"Drinking water fraction" means the fraction of drinking water that is obtained or has the potential to be obtained from the site.

"Ecology" or **"department"** means the department of ecology.

"Ecology-conducted remedial action" means a remedial action conducted by ecology.

"Ecology-supervised remedial action" means a remedial action conducted by a potentially liable person or prospective purchaser and supervised by ecology under an order or decree.

"Engineered control" means a containment or treatment system that is designed and constructed to prevent or limit the movement of, or the exposure to, a hazardous substance. An engineered control is a type of remedial action. Examples of engineered controls include:

(a) A layer of clean soil, asphalt or concrete paving or other materials placed over contaminated soils to limit contact with contamination;

(b) A groundwater flow barrier such as a bentonite slurry trench;

(c) A groundwater gradient control system such as a French drain or a pump and treat system; and

(d) A vapor control system.

"Environment" means any plant, animal, natural resource, surface water (including underlying sediments), groundwater, drinking water supply, land surface (including tidelands and shorelands) or subsurface strata, or ambient air within the state of Washington or under the jurisdiction of the state of Washington.

"Equivalent carbon number" or **"EC"** means a value assigned to a fraction of a petroleum mixture, empirically derived from the boiling point of the fraction normalized to the boiling point of n-alkanes or the retention time of n-alkanes in a boiling point gas chromatography column.

"Exposure" means subjection of an organism to the action, influence, or effect of a hazardous substance (chemical agent) or physical agent.

"Exposure duration" means the period of exposure to a hazardous substance.

"Exposure frequency" means the portion of the exposure duration that an individual is exposed to a hazardous substance, expressed as a fraction. For example, if a person is exposed 250 days (five days per week for 50 work weeks) over a year (365 days), the exposure frequency would be equal to: $(5 \times 50)/365 = 0.7$.

"Exposure parameters" means those parameters used to derive an estimate of the exposure to a hazardous substance.

"Exposure pathway" means the path a hazardous substance takes or could take from a source to an exposed organism. An exposure pathway describes the mechanism by which an individual or population is exposed or has the potential to be exposed to hazardous substances at or originating from a site. Each exposure pathway includes an actual or potential source or release from a source, an exposure point, and an exposure route. If the exposure point differs from the source of the hazardous substance, the exposure pathway also includes a transport/exposure medium.

"Facility" means (a) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, vessel, or aircraft, or (b) any site or area where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed, or otherwise come to be located.

"Feasibility study" means a remedial action conducted under WAC 173-340-351 that consists of developing and evaluating cleanup action alternatives to enable selection of a cleanup action.

"Federal cleanup law" means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. 9601 et seq.).

"Financial assurance" means a remedial action that consists of an assurance provided to ecology under WAC 173-340-440(11) that sufficient financial resources are available to provide for the long-term effectiveness of engineered or institutional controls.

"Fish diet fraction" means the percentage of the total fish and/or shellfish in an individual's diet that is obtained or has the potential to be obtained from the site.

"Food crop" means any domestic plant that is produced for the purpose of, or may be used in whole or in part for, consumption by people or livestock. This includes nursery, root, or seedstock to be used for the production of food crops.

"Free product" means a nonaqueous phase liquid that is present in the soil, bedrock, groundwater or surface water as a distinct separate layer. Under the right conditions, if sufficient free product is present, free product is capable of migrating independent of the direction of flow of the groundwater or surface water.

"Gastrointestinal absorption fraction" means the fraction of a substance transported across the gastrointestinal lining and taken up systemically into the body.

"Groundwater" means water in a saturated zone or stratum beneath the surface of land or below a surface water.

"Hazard index" means the sum of two or more hazard quotients for multiple hazardous substances and/or multiple exposure pathways.

"Hazardous substance" means:

(a) Any dangerous or extremely hazardous waste as defined in RCW 70A.300.010 (1) and (7), or any dangerous or extremely dangerous waste as designated by rule under chapter 70A.300 RCW;

(b) Any hazardous substance as defined in RCW 70A.300.010(10) or any hazardous substance as defined by rule under chapter 70A.300 RCW;

(c) Any substance that, on the effective date of this section, is a hazardous substance under section 101(14) of the federal cleanup law, 42 U.S.C. Sec. 9601(14);

(d) Petroleum or petroleum products; and

(e) Any substance or category of substances, including solid waste decomposition products, determined by the director by rule to present a threat to human health or the environment if released into the environment.

The term hazardous substance does not include any of the following when contained in an underground storage tank from which there is not a release: Crude oil or any fraction thereof or petroleum, if the tank is in compliance with all applicable federal, state, and local law.

"Hazard quotient" or **"HQ"** means the ratio of the dose of a single hazardous substance over a specified time period to a reference dose for that hazardous substance derived for a similar exposure period.

"Health and safety plan" means a plan prepared under WAC 173-340-810.

"Health effects assessment summary tables" or **"HEAST"** means a database developed by the United States Environmental Protection Agency that provides a summary of information on the toxicity of hazardous substances.

"Henry's law constant" means the ratio of a hazardous substance's concentration in the air to its concentration in water. Henry's law constant can vary significantly with temperature for some hazardous substances. The dimensionless form of this constant is used in the default equations in this chapter.

"Highest beneficial use" means the beneficial use of a resource generally requiring the highest quality in the resource. For example, for many hazardous substances, providing protection for the beneficial use of drinking water will generally also provide protection for a great variety of other existing and future beneficial uses of groundwater.

"Inadvertent discovery plan" means a plan prepared under WAC 173-340-815 that describes procedures for responding to a discovery of archaeological materials or human remains in accordance with applicable state and federal laws.

"Independent remedial action" means a remedial action conducted without ecology oversight or approval and not under an order or decree.

"Indian tribe" means the term as defined in RCW 43.376.010(1).

"Indicator hazardous substances" means the subset of hazardous substances present at a site selected under WAC 173-340-708 for monitoring and analysis during any phase of remedial action for the purpose of characterizing the site or establishing cleanup requirements for that site.

"Indigenous peoples" means individual members of Indian tribes; other individual Native Americans; individual Native Alaskans, Native Hawaiians, and Native Pacific Islanders; and indigenous and tribal community-based organizations.

"Industrial properties" means properties that are or have been characterized by, or are to be committed to, traditional industrial uses such as processing or manufacturing of materials, marine terminal and transportation areas and facilities, fabrication, assembly, treatment, or distribution of manufactured products, or storage of bulk materials, that are either:

(a) Zoned for industrial use by a city or county conducting land use planning under chapter 36.70A RCW (Growth Management Act); or

(b) For counties not planning under chapter 36.70A RCW (Growth Management Act) and the cities within them, zoned for industrial use

and adjacent to properties currently used or designated for industrial purposes.

See WAC 173-340-745 for additional criteria to determine if a land use not specifically listed in this definition would meet the requirement of "traditional industrial use" and for evaluating if a land use zoning category meets the requirement of being "zoned for industrial use."

"Inhalation absorption fraction" means the percent of a hazardous substance (expressed as a fraction) that is absorbed through the respiratory system.

"Inhalation correction factor" means a multiplier that is used to adjust exposure estimates based on ingestion of drinking water to take into account exposure to hazardous substances that are volatilized and inhaled during use of the water.

"Initial investigation" means a remedial action that consists of an investigation conducted under WAC 173-340-310.

"Institutional control" means a measure undertaken to limit or prohibit activities that may interfere with the integrity of an interim action or a cleanup action or result in exposure to hazardous substances at the site. An institutional control is a type of remedial action. For examples of institutional controls, see WAC 173-340-440(1).

"Integrated risk information system" or **"IRIS"** means a database developed by the United States Environmental Protection Agency that provides a summary of information on hazard identification and dose-response assessment for specific hazardous substances.

"Interim action" means a remedial action conducted under WAC 173-340-430.

"Interspecies scaling factor" means the conversion factor used to take into account differences between animals and humans.

"Land's method" means the method for calculating an upper confidence limit for the mean of a lognormal distribution, described in the following publications:

(a) Land, C.E., 1971. "Confidence intervals for linear functions of the normal mean and variance." *Annals of Mathematics and Statistics*. Volume 42, pages 1187-1205.

(b) Land, C.E., 1975. "Tables of confidence limits for linear functions of the normal mean and variance." In: *Selected Tables in Mathematical Statistics*, Volume III, pages 385-419. American Mathematical Society, Providence, Rhode Island.

"Legally applicable requirements" means those cleanup standards, standards of control, and other human health and environmental protection requirements, criteria, or limitations adopted under state or federal law that specifically address a hazardous substance, cleanup action, location, or other circumstances at the site.

"Lowest observed adverse effect level" or **"LOAEL"** means the lowest concentration of a hazardous substance at which there is a statistically or biologically significant increase in the frequency or severity of an adverse effect between an exposed population and a control group.

"Maximum contaminant level" or **"MCL"** means the maximum concentration of a contaminant established by either the Washington state board of health or the United States Environmental Protection Agency under the Safe Drinking Water Act (42 U.S.C. 300f et seq.) and published in chapter 246-290 WAC or 40 C.F.R. Part 141.

"Maximum contaminant level goal" or **"MCLG"** means the maximum concentration of a contaminant established by either the Washington state

board of health or the United States Environmental Protection Agency under the Safe Drinking Water Act (42 U.S.C. 300f et seq.) and published in chapter 246-290 WAC or 40 C.F.R. Part 141 for which no known or anticipated adverse effects on human health occur, including an adequate margin of safety.

"Method detection limit" or **"MDL"** means the minimum concentration of a compound that can be measured and reported with 99 percent confidence that the value is greater than zero.

"Millirem" or **"mrem"** means the measure of the dose of any radiation to body tissue in terms of its estimated biological effect relative to a dose received from an exposure to one roentgen (R) of X-rays. One millirem equals 0.001 rem.

"Mixed funding" means any funding provided to a potentially liable person from the model toxics control capital account under WAC 173-340-560.

"Model remedy" means a set of technologies, procedures, and monitoring protocols identified by ecology for use in routine types of cleanup projects at facilities that have common features and lower risk to human health and the environment.

"Model Toxics Control Act" or **"act"** means chapter 70A.305 RCW, first passed by the voters in the November 1988 general election as Initiative 97 and as since amended by the legislature.

"National priorities list" or **"NPL"** means the list of sites designated as a national priority by the United States Environmental Protection Agency under Section 105(a)(8)(B) of the federal cleanup law, 42 U.S.C. 9605(a)(8)(B).

"Natural attenuation" means a variety of physical, chemical or biological processes that, under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of hazardous substances in the environment. These in situ processes include: Natural biodegradation; dispersion; dilution; sorption; volatilization; and chemical or biological stabilization, transformation, or destruction of hazardous substances. See WAC 173-340-370(7) for a description of the expected role of natural attenuation in site cleanup. A cleanup action that includes natural attenuation and conforms to the expectation in WAC 173-340-370(7) can be considered an active remedial measure.

"Natural background" means the concentration of a hazardous substance consistently present in the environment that has not been influenced by localized human activities. For example, several metals and radionuclides naturally occur in the bedrock, sediments, and soils of Washington state due solely to the geologic processes that formed these materials. The concentration of these hazardous substances would be considered natural background. Also, low concentrations of some particularly persistent organic compounds such as polychlorinated biphenyls (PCBs) can be found in surficial soils and sediment throughout much of the state due to global distribution of these hazardous substances. These low concentrations would be considered natural background. Similarly, concentrations of various radionuclides that are present at low concentrations throughout the state due to global distribution of fallout from bomb testing and nuclear accidents would be considered natural background. Compare "area background."

"Natural biodegradation" means in situ biological processes such as aerobic respiration, anaerobic respiration, and cometabolism, that occur without human intervention and that break down hazardous substances into other compounds or elements. The process is typically a multiple step process and may or may not result in organic compounds

being completely broken down or mineralized to carbon dioxide and water.

"Natural person" means any unincorporated individual or group of individuals. The term "individual" is synonymous with "natural person."

"Nonaqueous phase liquid" or **"NAPL"** means a hazardous substance that is present in the soil, bedrock, groundwater, or surface water as a liquid not dissolved in water. The term includes both light nonaqueous phase liquid (LNAPL) and dense nonaqueous phase liquid (DNAPL).

"No further action sites list" means a list of sites for which ecology or PLIA has determined no further remedial action is necessary under state cleanup law to meet the criteria in WAC 173-340-330(5). For each listed site, the list also identifies whether institutional controls or periodic reviews remain necessary at the site. Ecology maintains the list under WAC 173-340-335.

"No observed adverse effect level" or **"NOAEL"** means the exposure level at which there are no statistically or biologically significant increases in frequency or severity of adverse effects between the exposed population and its appropriate control. Some effects may be produced at this level, but they are not considered to be adverse, nor precursors to specific adverse effects.

"Nonpotable" means not a current or potential source of drinking water. See WAC 173-340-720 and 173-340-730 for criteria for determining if groundwater or surface water is a current or potential source of drinking water.

"Null hypothesis" means an assumption about hazardous substance concentrations at a site when evaluating compliance with cleanup levels established under this chapter. The null hypothesis is that the site is contaminated at concentrations that exceed cleanup levels. This does not apply to cleanup levels based on background concentrations where other appropriate statistical methods supported by a power analysis would be more appropriate to use.

"Oral RFD conversion factor" means the conversion factor used to adjust an oral reference dose (which is typically based on an administered dose) to a dermal reference dose (which is based on an absorbed dose).

"Order" means an enforcement order issued under WAC 173-340-540 or an agreed order issued under WAC 173-340-530.

"Overburdened community" means the term as defined in RCW 70A.02.010(11).

"Owner or operator" means any person that meets the definition of this term in RCW 70A.305.020(22).

"PAHs (carcinogenic)" or **"cPAHs"** means those polycyclic aromatic hydrocarbons substances, PAHs, identified as A (known human) or B (probable human) carcinogens by the United States Environmental Protection Agency. These include benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene.

"Performance monitoring" means a type of compliance monitoring described in WAC 173-340-410.

"Periodic review" means a remedial action that consists of a review conducted by ecology under WAC 173-340-420.

"Permanent solution" or **"permanent cleanup action"** means a cleanup action in which cleanup standards of Part 7 of this chapter can be met without further action being required at the site being cleaned up or any other site involved with the cleanup action, other than the ap-

proved disposal of any residue from the treatment of hazardous substances.

"Person" means an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, state government agency, unit of local government, federal government agency, or Indian tribe.

"Picocurie" or **"pCi"** means 10^{-12} curie.

"PLIA" means the pollution liability insurance agency.

"Point of compliance" means the point or points where cleanup levels established in accordance with WAC 173-340-720 through 173-340-760 must be attained. This term includes both standard and conditional points of compliance. A conditional point of compliance for particular environmental media is only available as provided in WAC 173-340-720 through 173-340-760.

"Polychlorinated biphenyls" or **"PCB mixtures"** means those aromatic compounds containing two benzene nuclei with two or more substituted chlorine atoms. For the purposes of this chapter, PCB includes those congeners which are identified using the appropriate analytical methods as specified by ecology under WAC 173-340-830.

"Polycyclic aromatic hydrocarbons" or **"PAH"** means those hydrocarbon molecules composed of two or more fused benzene rings. For the purpose of this chapter, PAH includes those compounds which are identified and quantified using the appropriate analytical methods specified by ecology under WAC 173-340-830. The specific compounds generally included are acenaphthene, acenaphthylene, fluorene, naphthalene, anthracene, fluoranthene, phenanthrene, benzo[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, pyrene, chrysene, benzo[a]pyrene, dibenzo[a,h]anthracene, indeno[1,2,3-cd]pyrene, and benzo[ghi]perylene.

"Potentially liable person" means any person who ecology finds, based on credible evidence, to be liable under RCW 70A.305.040.

"Practicable" means capable of being designed, constructed, and implemented in a reliable and effective manner including consideration of cost. An alternative is not practicable if its incremental costs are disproportionate to its incremental degree of benefits, compared to another alternative. Whether a cleanup action uses permanent solutions to the maximum extent practicable is determined using the procedures in WAC 173-340-360(5).

"Practical quantitation limit" or **"PQL"** means the lowest concentration that can be reliably measured within specified limits of precision, accuracy, representativeness, completeness, and comparability during routine laboratory operating conditions, using ecology approved methods.

"Probabilistic risk assessment" means a mathematical technique for assessing the variability and uncertainty in risk calculations. This is done by using distributions for model input parameters, rather than point values, where sufficient data exists to justify the distribution. These distributions are then used to compute various simulations using tools such as Monte Carlo analysis to examine the probability that a given outcome will result (such as a level of risk being exceeded). When using probabilistic techniques under this chapter for human health risk assessment, distributions may not be used to represent dose response relationships (reference dose, reference concentration, cancer potency factor).

"Prospective purchaser" means a person who is not currently liable for remedial action at a site and who proposes to purchase, redevelop, or reuse the site.

"Protection monitoring" means a type of compliance monitoring described in WAC 173-340-410.

"Public notice" means the notice and opportunity to comment required under WAC 173-340-600(2).

"Public participation plan" means a plan prepared under WAC 173-340-600 to encourage coordinated and effective public involvement tailored to the public's needs at a particular site.

"Rad" means that quantity of ionizing radiation that results in the absorption of 100 ergs of energy per gram of irradiated material, regardless of the source of radiation.

"Radionuclide" means a type of atom that spontaneously undergoes radioactive decay. Radionuclides are hazardous substances under the act.

"Reasonable maximum exposure" means the highest exposure that can be reasonably expected to occur for a human or other living organisms, including a likely vulnerable population or overburdened community, at a site under current and potential future site use.

"Reference dose" or "RFD" means a benchmark dose, derived from the NOAEL or LOAEL for a hazardous substance by consistent application of uncertainty factors used to estimate acceptable daily intake doses and an additional modifying factor, which is based on professional judgment when considering all available data about a substance, expressed in units of milligrams per kilogram body weight per day. This includes chronic reference doses, subchronic reference doses, and developmental reference doses.

"Regulated substance" means the term as defined in chapter 173-360A WAC. All regulated substances are hazardous substances, as defined in this chapter.

"Release" means any intentional or unintentional entry of any hazardous substance into the environment, including but not limited to the abandonment or disposal of containers of hazardous substances.

"Relevant and appropriate requirements" means those cleanup standards, standards of control, and other human health and environmental requirements, criteria, or limitations established under state and federal law that, while not legally applicable to the hazardous substance, cleanup action, location, or other circumstance at a site, ecology determines address problems or situations sufficiently similar to those encountered at the site that their use is well suited to the particular site. The criteria specified in WAC 173-340-710 (4) are used to determine if a requirement is relevant and appropriate.

"Rem" means the unit of radiation dose equivalent that is the dosage in rads multiplied by a factor representing the different biological effects of various types of radiation.

"Remedial investigation" means a remedial action conducted under WAC 173-340-350 that consists of collecting and evaluating sufficient information about a site, including the distribution of hazardous substances and the threat they pose to human health and the environment, to enable:

(a) Cleanup standards to be established under Part 7 of this chapter; and

(b) Cleanup action alternatives to be developed and evaluated in a feasibility study under WAC 173-340-351.

"Remedial investigation/feasibility study" means a remedial action that consists of both a remedial investigation and a feasibility study.

"Remediation level (REL)" means a concentration (or other method of identification) of a hazardous substance in soil, water, air, or sediment used to identify where a particular cleanup action component is required as part of a cleanup action at a site. Other methods of identification include physical appearance or location. A cleanup action selected in accordance with WAC 173-340-350 through 173-340-390 that includes remediation levels constitutes a cleanup action which is protective of human health and the environment. See WAC 173-340-355 for a description of the purpose of remediation levels and the requirements and procedures for developing a cleanup action alternative that includes remediation levels.

"Remedy" or "remedial action" means any action or expenditure consistent with the purposes of chapter 70A.305 RCW to identify, eliminate, or minimize any threat posed by hazardous substances to human health or the environment including any investigative and monitoring activities with respect to any release or threatened release of a hazardous substance and any health assessments or health effects studies conducted in order to determine the risk or potential risk to human health.

"Restoration time frame" means the period of time needed to achieve the required cleanup levels at the points of compliance established for the site.

"Risk" means the probability that a hazardous substance, when released into the environment, will cause an adverse effect in exposed humans or other living organisms.

"Routine cleanup action" means a remedial action meeting all of the following criteria:

- Cleanup standards for each hazardous substance addressed by the cleanup are obvious and undisputed, and allow for an adequate margin of safety for protection of human health and the environment;
- It involves an obvious and limited choice among cleanup action alternatives and uses an alternative that is reliable, has proven capable of accomplishing cleanup standards, and with which ecology has experience;
- The cleanup action does not require preparation of an environmental impact statement; and
- The site qualifies under WAC 173-340-7491 for an exclusion from conducting a simplified or site-specific terrestrial ecological evaluation, or if the site qualifies for a simplified ecological evaluation, the evaluation is ended under WAC 173-340-7492(2) or the values in Table 749-2 are used.

Routine cleanup actions consist of, or are comparable to, one or more of the following remedial actions:

- Cleanup of above-ground structures;
- Cleanup of below-ground structures;
- Cleanup of contaminated soils where the action would restore the site to cleanup levels; or
- Cleanup of solid wastes, including containers.

"Sampling and analysis plan" means a plan prepared under WAC 173-340-820.

"Saturated zone" means the area below the water table in which all interstices are filled with water.

"Schools" means preschools, elementary schools, middle schools, high schools, and similar facilities, both public and private, used primarily for the instruction of minors.

"Sediment" means the term as defined in WAC 173-204-505.

"Sensitive environment" means an area of particular environmental value, where a release could pose a greater threat than in other areas including: Wetlands; critical habitat for endangered or threatened species; national or state wildlife refuge; critical habitat, breeding or feeding area for fish or shellfish; wild or scenic river; rookery; riparian area; big game winter range.

"Site" means the same as "facility."

"Site hazard assessment and ranking" means a remedial action that consists of an assessment and ranking conducted under WAC 173-340-320.

"Soil" means a mixture of organic and inorganic solids, air, water, and biota that exists on the earth's surface above bedrock, including materials of anthropogenic sources such as slag, sludge, etc.

"Soil biota" means invertebrate multicellular animals that live in the soil or in close contact with the soil.

"State cleanup law" means the Model Toxics Control Act, chapter 70A.305 RCW, and the cleanup regulations adopted under that act, chapters 173-340 and 173-204 WAC.

"Subchronic reference dose" means an estimate (with an uncertainty of an order of magnitude or more) of a daily exposure level for the human population, including sensitive subgroups, that is likely to be without appreciable risk of adverse effects during a portion of a lifetime.

"Surface water" means lakes, rivers, ponds, streams, inland waters, salt waters, and all other surface waters and water courses within the state of Washington or under the jurisdiction of the state of Washington.

"Technically possible" means capable of being designed, constructed, and implemented in a reliable and effective manner, regardless of cost.

"Terrestrial ecological receptors" means plants and animals that live primarily or entirely on land.

"Threatened or endangered species" means species listed as threatened or endangered under the federal Endangered Species Act 16 U.S.C. Section 1533, or classified as threatened or endangered by the state fish and wildlife commission under WAC 220-200-100 or 220-610-010.

"Total excess cancer risk" means the upper bound on the estimated excess cancer risk associated with exposure to multiple hazardous substances and multiple exposure pathways.

"Total petroleum hydrocarbons" or **"TPH"** means any fraction of crude oil that is contained in plant condensate, crankcase motor oil, gasoline, aviation fuels, kerosene, diesel motor fuel, benzol, fuel oil, and other products derived from the refining of crude oil. For the purposes of this chapter, TPH generally means those fractions of the above products that are the total of all hydrocarbons quantified by analytical methods NWTPH-Gx; NWTPH-Dx; volatile petroleum hydrocarbons (VPH) for volatile aliphatic and volatile aromatic petroleum fractions; and extractable petroleum hydrocarbons (EPH) for nonvolatile aliphatic and nonvolatile aromatic petroleum fractions, as appropriate, or other test methods approved by ecology.

"Type I error" means the error made when it is concluded that an area of a site is below cleanup levels when it actually exceeds clean-up levels. This is the rejection of a true null hypothesis.

"Underground storage tank" or "UST" means the term as defined in chapter 173-360A WAC.

"Unrestricted site use conditions" means restrictions on the use of the site or natural resources affected by releases of hazardous substances from the site are not required to ensure continued protection of human health and the environment.

"Upper bound on the estimated excess cancer risk of one in 100,000" means the upper 95th percent confidence limit on the estimated risk of one additional cancer above the background cancer rate per 100,000 individuals.

"Upper bound on the estimated excess cancer risk of one in 1,000,000" means the upper 95th percent confidence limit on the estimated risk of one additional cancer above the background cancer rate per 1,000,000 individuals.

"UST system" means the term as defined in chapter 173-360A WAC.

"UST system operator" means the same as "operator" in chapter 173-360A WAC.

"UST system owner" means the same as "owner" in chapter 173-360A WAC.

"Volatile organic compound" means those carbon-based compounds listed in United States Environmental Protection Agency methods 502.2, 524.2, 551, 601, 602, 603, 624, 1624C, 1666, 1671, 8011, 8015B, 8021B, 8031, 8032A, 8033, 8260B, and those with similar vapor pressures or boiling points. For petroleum, volatile means aliphatic and aromatic constituents up to and including EC12, plus naphthalene, 1-methylnaphthalene and 2-methylnaphthalene.

"Vulnerable population" means the term as defined in RCW 70A.02.010(14).

"Wastewater facility" means all structures and equipment required to collect, transport, treat, reclaim, or dispose of domestic, industrial, or combined domestic/industrial wastewaters.

"Wetlands" means the term as defined in WAC 173-201A-020.

"Wildlife" means any nonhuman vertebrate animal other than fish.

"Zoned for (a specified) use" means the use is allowed as a permitted or conditional use under the local jurisdiction's land use zoning ordinances. A land use that is inconsistent with the current zoning but allowed to continue as a nonconforming use or through a comparable designation is not considered to be zoned for that use.

[Statutory Authority: Chapters 70A.305 and 70A.355 RCW. WSR 23-17-159 (Order 18-09), § 173-340-200, filed 8/23/23, effective 1/1/24. Statutory Authority: Chapter 70.105D RCW. WSR 01-05-024 (Order 97-09A), § 173-340-200, filed 2/12/01, effective 8/15/01; WSR 96-04-010 (Order 94-37), § 173-340-200, filed 1/26/96, effective 2/26/96; WSR 91-04-019, § 173-340-200, filed 1/28/91, effective 2/28/91; WSR 90-08-086, § 173-340-200, filed 4/3/90, effective 5/4/90.]

Reviser's note: The brackets and enclosed material in the text of the above section occurred in the copy filed by the agency.