

APPENDIX H. GLOSSARY

"Active remediation" means corrective action undertaken to reduce contaminant concentrations by other than passive remediation or monitoring.

"Bedrock" means the rock, usually solid, underlying soil or any other unconsolidated surficial cover.

"Carcinogenic risk" means the incremental risk of a person developing cancer over a lifetime as a result of exposure to a chemical, expressed as a probability such as one in a million (10^{-6}). For carcinogenic chemicals of concern, probability is derived from application of certain designated exposure assumptions and a slope factor.

"Certified groundwater professional" means a person certified pursuant to 1995 Iowa Code section 455G.18 and 567--Chapter 134.

"Chemicals of concern" means the compounds derived from petroleum-regulated substances which are subject to evaluation for purposes of applying risk-based corrective action decision-making. These compounds are benzene, ethylbenzene, toluene, and xylenes (BTEX) and naphthalene, benzo(a)pyrene, benz(a)anthracene, and chrysene. The measurement of the last four chemicals may be done by a conversion method from total extractable hydrocarbons (see subrule 135.8(3)).

"Conduit" means underground structures which act as pathways and receptors for chemicals of concern, including but not limited to gravity drain lines and sanitary or storm sewers.

"Corrective action" means an action taken to reduce, minimize, eliminate, clean up, control or monitor a release to protect the public health and safety or the environment. Corrective action includes, but is not limited to, use of institutional controls, use of technological controls, excavation of an underground storage tank for the purpose of repairing a leak or removal of a tank, removal of contaminated soil, disposal or processing of contaminated soil, and cleansing of groundwaters or surface waters. Corrective action does not include replacement of an underground storage tank. Corrective action specifically excludes third-party liability.

"Drinking water well" means any groundwater well used as a source for drinking water by humans and groundwater wells used primarily for the final production of food or medicine for human consumption in facilities routinely characterized with the Standard Industrial Codes (SIC) group 283 for drugs and 20 for foods.

"Enclosed space" means space which can act as a receptor or pathway capable of creating a risk of explosion or inhalation hazard to humans and includes "explosive receptors" and "confined spaces." Explosive receptors means those receptors which are evaluated for explosive risk. Confined spaces means those receptors which are evaluated for vapor inhalation risks.

"Groundwater ingestion pathway" means a pathway through groundwater by which chemicals of concern may result in exposure to a human receptor.

"Groundwater vapor to enclosed space pathway" means a pathway through groundwater by which vapors from chemicals of concern may lead to a receptor creating an inhalation or explosive risk hazard.

"Groundwater plume" means the extent of groundwater impacted by the release of chemicals of concern.

"Groundwater to plastic water line pathway" means a pathway through groundwater which leads to a plastic water line.

"Institutional controls" means the restriction on use or access (for example, fences, deed restrictions, restrictive zoning) to a site or facility to eliminate or minimize potential exposure to a chemical(s) of concern.. Institutional controls include any of the following:

1. A law of the United States or the state;
2. A regulation issued pursuant to federal or state laws;
3. An ordinance or regulation of a political subdivision in which real estate subject to the institutional control is located;
4. A restriction on the use of or activities occurring at real estate which are embodied in a covenant running with the land which:
 - Contains a legal description of the real estate in a manner which satisfies Iowa Code section 558.1 et seq.;
 - Is properly executed, in a manner which satisfies Iowa Code section 558.1 et seq.;
 - Is recorded in the appropriate office of the county in which the real estate is located;
 - Adequately and accurately describes the institutional control; and
 - Is in the form of a covenant or other document format reasonably acceptable to the department;
5. Any other institutional control the owner or operator can reasonably demonstrate to the department which will reduce the risk from a release throughout the period necessary to assure that no applicable target risk is likely to be exceeded.

"MCLs" means the drinking water primary maximum contaminant levels set out in 567--41.3(455B).

"Non-drinking water well" means any groundwater well (except an extraction well used as part of a remediation system) not defined as a drinking water well including a groundwater well which is not properly plugged in accordance with department rules in 567--Chapters 39 and 49.

"Nonresidential area" means land which is not currently used as a residential area and which is zoned for nonresidential uses.

"Pathway" means a transport mechanism by which chemicals of concern may reach a receptor(s) or the location(s) of a potential receptor.

"Point of compliance" means the location(s) at the source(s) of contamination or at the location(s) between the source(s) and the point(s) of exposure where concentrations of chemicals of concern must meet applicable risk-based screening levels at Tier 1 or other target level(s) at Tier 2 or Tier 3.

"Point of exposure" means the location(s) at which an actual or potential receptor may be exposed to chemicals of concern via a pathway.

"Potential receptor" means a receptor not in existence at the time a Tier 1, Tier 2 or Tier 3 site assessment is prepared, but which could reasonably be expected to exist within 20 years of the preparation of the Tier 1, Tier 2 or Tier 3 site assessment or as otherwise specified in these rules.

"Preferential pathway" means conditions which act as a pathway permitting contamination to migrate through soils and to groundwater at a faster rate than would be expected through naturally occurring undisturbed soils or unfractured bedrock including but not limited to wells, cisterns, tile lines, drainage systems, utility lines and envelopes, and conduits.

"Protected groundwater source" means a saturated bed, formation, or group of formations which has a hydraulic conductivity of at least 0.44 meters per day (m/d) and a total dissolved solids of less than 2,500 milligrams per liter (mg/l)- and a bedrock aquifer with total dissolved solids of less than 2,500 milligrams per liter (mg/l) if bedrock is encountered before groundwater.

"Receptor" means enclosed spaces, conduits, protected groundwater sources, drinking and non-drinking water wells, surface water bodies, and public water systems which when impacted by chemicals of concern may result in exposure to humans and aquatic life, explosive conditions or other adverse effects on health, safety and the environment.

"Receptor plume" means the plume which identifies all receptors which must be evaluated for a receptor type. The receptor plume is identified using computer software at Tier 2, as described in the Tier 2 guidance, section 6.6: pathway assessment. Generally this is a combination of all simulation plumes for a receptor type, which include, for example, the simulations for each chemical and additional simulations from any points where actual data exceeds the simulation value. Therefore, the receptor plume always includes the actual contaminant plume, and may be substituted for the concept of using "the simulation plume, or if the actual plume is larger than the simulation plume, then the actual plume plus ten percent."

"Receptor type" means a category of a pathway based on receptor conditions that will determine the target level at the point of exposure. The eight groundwater receptor types are:

1. Groundwater ingestion—actual
2. Groundwater ingestion—potential
3. Groundwater vapor to enclosed space—confined space—residential
4. Groundwater vapor to enclosed space—confined space—nonresidential
5. Groundwater vapor to enclosed space—sanitary sewer—residential
6. Groundwater vapor to enclosed space—sanitary sewer—nonresidential
7. Groundwater to plastic water line
8. Surface water

"Residential area" means land used as a permanent residence or domicile, such as a house, apartment, nursing home, school, child care facility or prison, land zoned for such uses, or land where no zoning is in place.

"Risk-based screening level" (RBSL) means the risk-based concentration level for chemicals of concern developed for a Tier 1 analysis to be met at the point(s) of compliance and incorporated in the Tier 1 Look-up Table.

"Site cleanup report" means the report required to be submitted by these rules and in accordance with department guidance which may include the results of Tier 2 or Tier 3 assessment and analysis.

"Site-specific target level" (SSTL) means the risk-based target level(s) for chemicals of concern developed as the result of a Tier 2 or Tier 3 assessment which must be achieved at applicable point(s) of compliance at the source to meet the target level(s) at the point(s) of exposure.

"Soil leaching to groundwater pathway" means a pathway through soil by which chemicals of concern may leach to groundwater and through a groundwater transport pathway impact an actual or potential receptor.

"Soil plume" means the vertical and horizontal extent of soil impacted by the release of chemicals of concern.

"Soil to plastic water line pathway" means a pathway which leads from soil to a plastic water line.

"Soil vapor to enclosed space pathway" means a pathway through soil by which vapors from chemicals of concern may lead to a receptor creating an inhalation or explosive risk hazard.

"Surface water criteria" means, for chemicals of concern, the Criteria for Chemical Constituents in Table 1 of rule 567--61.3(455B), except that "1,000 ug/L" will be substituted for the chronic levels for toluene for Class B designated use segments.

"Surface water pathway" means a pathway which leads to a surface water body.

"Surface water body" means general use segments as provided in paragraph 567--61.3(1)"a" and designated use segments of water bodies as provided in paragraph 567--61.3(1)"b" and subrule 567--61.3(5).

"Target risk" refers to an applicable carcinogenic and noncarcinogenic risk factor designated in these rules and used in determining target levels (for carcinogenic risk assessment, target risk is a separate factor, different from exposure factors, both of which are used in determining target levels).

"Target level" means the allowable concentrations of chemicals of concern established to achieve an applicable target risk which must be met at the point(s) of compliance as specified in these rules.

"Technological controls" means a physical action which does not involve source removal or reduction, but severs or reduces exposure to a receptor, such as caps, containment, carbon filters, point of use water treatment, etc.

"Tier 1 level" means the groundwater and soil levels in the Tier 1 Look-up Table.

"Tier 1 site assessment" means the evaluation of limited site-specific data compared to the Tier 1 levels established in these rules for the purpose of determining which pathways do not require assessment and evaluation at Tier 2 and which sites warrant a no further action required classification without further assessment and evaluation.

"Tier 2 site assessment" means the process of assessing risk to actual and potential receptors by using site-specific field data and designated Tier 2 exposure and fate and transport models to determine the applicable target level(s).

"Tier 3 site assessment" means a site-specific risk assessment utilizing more sophisticated data or analytic techniques than a Tier 2 site assessment.

"Underground utility vault" means any constructed space accessible for inspection and maintenance associated with subsurface utilities.

"Unreasonable risk to public health and safety or the environment" means the Tier 1 levels for a Tier 1 site assessment, the applicable target level for a Tier 2 site assessment, and the applicable target level for a Tier 3 site assessment.

"Utility envelope" means the backfill and trench used for any subsurface utility line, drainage system and tile line.