

WAC 173-340-357 Quantitative risk assessment of cleanup action alternatives.

(1) Purpose. A quantitative site-specific risk assessment may be conducted to help determine whether cleanup action alternatives, including those using a remediation level, engineered control and/or institutional control, are protective of human health and the environment. If a quantitative site-specific risk assessment is used, then other considerations may also be needed in evaluating the protectiveness of the overall cleanup action. Methods other than a quantitative site-specific risk assessment may also be used to determine if a cleanup action alternative is protective of human health and the environment.

(2) Relationship to selection of cleanup actions. Selecting a cleanup action requires a determination that each of the requirements specified in WAC 173-340-360 is met, including the requirement that the cleanup action is protective of human health and the environment. A quantitative risk assessment conducted under this section may be used to help determine whether a particular cleanup action alternative meets this requirement. A determination that a cleanup action alternative evaluated is protective of human health and the environment does not mean that the other minimum requirements specified in WAC 173-340-360 have been met.

(3) Protection of human health. A quantitative site-specific human health risk assessment may be conducted to help determine whether cleanup action alternatives, including those using a remediation level, engineered control and/or institutional control, are protective of human health. For the purpose of this assessment, the default assumptions in the standard Method B and C equations in WAC 173-340-720 through 173-340-750 may be modified as provided for under modified Method B and C. In addition to those modifications, adjustments to the reasonable maximum exposure scenario or default exposure assumptions may also be made. See WAC 173-340-708 (3)(d) and (10)(b). References to Method C in this subsection apply to a medium only if the particular medium the remediation level is being established for qualifies for a Method C cleanup level under WAC 173-340-706.

(a) Reasonable maximum exposure. Standard reasonable maximum exposures and corresponding Method B and C equations in WAC 173-340-720 through 173-340-750 may be modified as provided under WAC 173-340-708 (3)(d). For example, land uses other than residential and industrial may be used as the basis for an alternative reasonable maximum exposure scenario for the purpose of assessing the protectiveness of a cleanup action alternative that uses a remediation level, engineered control, and/or institutional control.

(b) Exposure parameters. Exposure parameters for the standard Method B and C equations in WAC 173-340-720 through 173-340-750 may be modified as provided in WAC 173-340-708(10).

(c) Acceptable risk level. The acceptable risk level for remediation levels shall be the same as that used for the cleanup level.

(d) Soil to groundwater pathway. The methods specified in WAC 173-340-747 to develop soil concentrations that are protective of groundwater beneficial uses may also be used during remedy selection to help assess the protectiveness to human health of a cleanup action alternative that uses a remediation level, engineered control, and/or institutional control.

(e) Burden of proof, new science, and quality of information. Any modification of the default assumptions in the standard Method B and C equations, including modification of the standard reasonable maximum exposures and exposure parameters, or any modification of default as-

sumptions or methods specified in WAC 173-340-747 requires compliance with WAC 173-340-702 (14), (15) and (16).

(f) Commercial gas station scenario.

(i) At active commercial gas stations, where there are retail sales of gasoline and/or diesel, Equations 740-3 and 740-5 may be used with the exposure frequency reduced to 0.25 to demonstrate when a cap is protective of the soil ingestion and dermal pathways. This scenario is intended to be a conservative estimate of a child trespasser scenario at a commercial gas station where contaminated soil has been excavated and stockpiled or soil is otherwise accessible. Sites using remediation levels must also use institutional controls to prevent uses that could result in a higher level of exposure and assess the protectiveness for other exposure pathways (e.g., soil vapors and soil to groundwater).

(ii) Equations 740-3 and 740-5 may also be modified on a site-specific basis as described in WAC 173-340-740 (3)(c).

(4) Protection of the environment. A quantitative site-specific ecological risk assessment may be conducted to help determine whether cleanup action alternatives, including those using a remediation level, engineered control and/or institutional control, are protective of the environment.

[Statutory Authority: Chapter 70.105D RCW. WSR 01-05-024 (Order 97-09A), § 173-340-357, filed 2/12/01, effective 8/15/01.]