Radon Vapor Intrusion Screening Level (RVISL) Calculator

Stuart Walker – walker.stuart@epa.gov, (703) 603-8748
Office of Superfund Remediation and Technology Innovation, US Environmental Protection Agency

RVISL Calculator

- Calculates risk-based or dose-based radon vapor intrusion screening levels (RVISLs) for use in radiation risk assessments for radon caused by soil or groundwater contamination entering a building.
- Calculates cleanup concentrations based on a target cancer risk (default of $1 \times 10^{-6}$) or a target dose (default of 1 millirem per year).
- Also may be used to show compliance with UMTRCA indoor radon standard of 0.02 Working Levels (WL) of radon progeny and state indoor standards expressed in pCi/l.
- Not cleanup standards – used for site screening and initial cleanup goals.
- Applicable for residential and, indoor worker exposure scenarios.

Conceptual Site Model

As Building Air Exchange Rate Increases Radon Progeny Decrease

Using the Calculator

- **Select WL/risk/dose**: WL, risk or dose-based run as option. With each choice, select target WL, risk or dose level for SL's.
- **Select scenario**: 2 exposure scenarios (resident, indoor worker). All exposure pathways demonstrated below within two exposure scenarios.
- **Select predict concentrations and risk/dose**: predict indoor air concentrations, and risk/dose, from concentrations in measured media (soil gas, ground water, indoor air)
- **Select Site Info type**: use default parameters or site-specific. Defaults useful for initial site assessments. If data is collected, may use site-specific data to set more accurate cleanup goals.
- **Select units**: units of activity in pCi or Bq.
- **Select WL**: select whether to compare results with the UMTRCA indoor radon standard of 0.02 Working Levels of radon progeny
- **Select groundwater temperature**: revise the groundwater temperature.
- **Select attenuation factor**: revise the attenuation factor for the subslab or groundwater.