

Virginia Unified Risk Assessment Model (VURAM) Change Log

VURAM 2.1.1 (August 2018):

1. Minor bug fixes

VURAM 2.1 (June 2018):

1. Includes RSL Update release June 2018
2. Includes Subchronic Metadata Update
3. Includes June 2017 VA Surface Water Update

VURAM 2.0 (March 2018):

1. Includes RSL Update release Nov2017
2. A Screening Level Risk Assessment (SLRA) module for Voluntary Remediation Program (VRP) and RCRA Corrective Action (CA)
3. Site Specific Background Comparison module for inorganics for soil, groundwater, surface water, and sediment media.
4. Alternate Concentration Limits (ACL) functionality for RCRA Hazardous (VHWMR) and Solid Waste (VSWMR Table 3.1) facilities to view or print ACL tables. This module is for reference only.
5. VURAM 2.0 User's Guide is updated to reflect all changes since VURAM 1.0 release.
6. Addition of construction worker soil gas Quantitative Risk Assessment (QRA) evaluation.
7. Virginia DEQ groundwater construction worker in a trench soil gas model was evaluated. A parameter (Ld: distance between trench bottom and groundwater) in the model is modified in order to provide an accurate representation of both exposure and risks to construction workers. As a result, there is a substantial change in the screening levels. This change only applies to the soil gas model and not the groundwater model.
8. Averaging Time (AT: $EW_{cw} \times 7 \times ED_{cw}$) for noncancer construction worker has been changed from 365 days to 350 days to reflect subchronic scenario.
9. Q/C(wind) value is calculated based on EPA 2002 Soil Supplemental Guidance for Construction Worker (See Exhibit D-2). Soil Inhalation Dispersion Constants: A, B and C for Philadelphia, Zone 8 are selected as constants.
10. Commercial worker groundwater page:
11. For RCRA CA program, the page is available to use
12. For VRP, a groundwater declaration page is added
13. "In EPD?" Yes/No column added to SLRA and QRA module Setup pages Chemical List
14. Other user-interface improvements
15. Ability to enter label/site name
16. Chemical search using CAS RN
17. Chemical list allows for alphabetical scrolling through chemical names in SLRA and QRA modules.
18. Ability to go back and forth between setup and calculation pages in SLRA and QRA modules to make changes on the setup page.
19. QRA setup page changed to include program, study area and risk value defaults.
20. Page to view "Standard Defaults" is changed to reflect defaults grouped by study area.

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VURAM 1.12 (March 2017)

1. Reflective of EPA RSL update of May 2016
2. Revised text on the report clearly identifies cumulative risk. The screenshots provided in the VURAM User's Guide will not match exactly to VURAM 1.12 but the information provided in the user's guide remains correct and valid to use the model and interpret the report.
3. Summation glitch for inhalation pathway for construction worker is fixed.
4. On the "Setup" screen, "Chemical List" Window: Chemical selection using chemical name or CAS number is not available for this window. The user must scroll down the entire list to select site-wide COPC list.
5. In line with EPA Region 3 guidance, <https://www.epa.gov/risk/updated-dermal-exposure-assessment-guidance>, VURAM calculates dermal risk for small set of chemicals which, per RAGS part E, are outside of the Effective Predictive Domain (EPD). While this approach increases uncertainty to some degree, it maintains conservative approach by including dermal risk for chemicals that may have high skin-permeability. Please contact DEQ for further discussion if these chemicals are identified as risk drivers for your facility.