SoBRA
The Society of Brownfield Risk Assessment

Report from SoBRA Vapour Risk Subgroup

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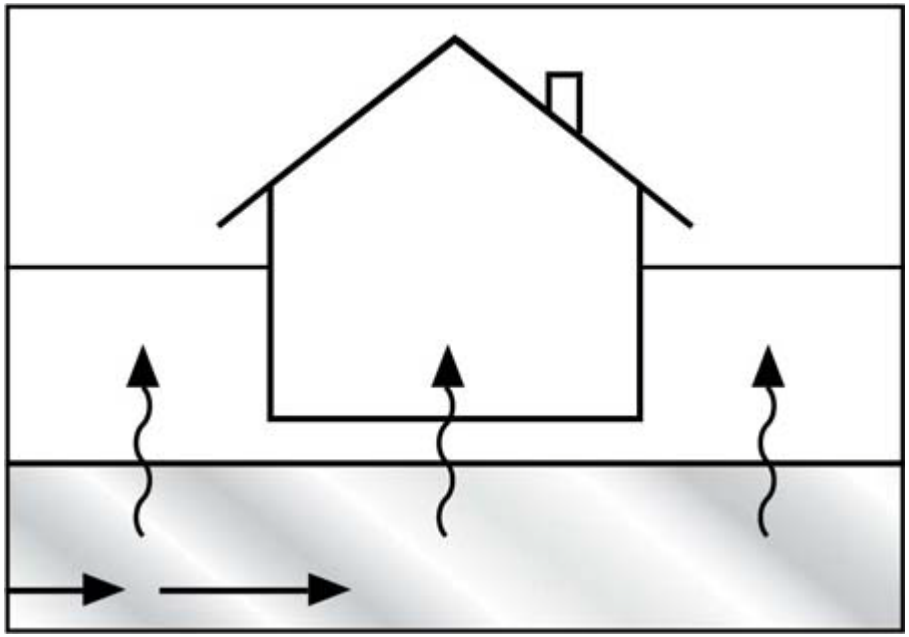
UNITED BY OUR DIFFERENCE

WSP

Background



- Currently many practitioners use DQRA or ignore dissolved phase as a potential vapour source
- Lack of UK published guidance on modelling of vapours from a groundwater source to indoor or outdoor air
- Some practitioners have in-house GAC but no standard approach currently
- CLEA model implements J&E model for soil sources
- Dissolved phase sources can be significant for indoor air

Subgroup Aims

Consider the development of guidance on the assessment of the groundwater vapour to indoor/outdoor air pathways and associated tools

Stage 1 - Ongoing

- Consider the development of a set of Generic Assessment Criteria for groundwater concentrations (GAC_{GV})
  - Identify a methodology as compliant with the CLEA approach as possible
  - Undertake the development of a set of GAC_{GV}
  - Document and publish the approach and the GAC_{GV} derived

Stage 2 - Proposed

- Consider the merits of the development of a spreadsheet implementation of the Johnson and Ettinger model (or another model) with UK default parameters to assist practitioners in completing DQRA along with associated guidance

Progress to date

- Teleconference on 7th December 2012
  - Initial Discussions – primary outcome was to arrange a workshop
- Workshop on 22nd February 2012
  - Agreed that GAC would be produced
  - Identified the model to be used – CLEA
  - Identified the approach for the production of GAC
  - Identified a process for the compilation of potential contaminants
  - Assigned tasks and reported the outcome of the workshop to the wider subgroup
- Teleconference on 30th May 2012
  - Update on progress

Adopted Approach

- The approach to be adopted can be summarised as:
  - Identification of suitably volatile contaminants
  - Screening to remove those which do not have sufficient phys/chem or tox data
  - Compilation of data into a database
  - Calculating a proposed GAC_{GV} using CLEA
    - Obtain the *Soil Solution Concentration* calculated by CLEA on the *Media Calculation Sheet,* convert to µg/l
  - Complete sensitivity analysis (building type, soil type, depth to GW, etc.)
  - Cross check calculated GAC_{GV} against same pathway for USEPA J&E Implementation to consider the impact of the capillary zone
  - Cross check GAC_{GV} against detection limits, solubility, drinking water standards
  - Draft report document
- Values will be conservative!

Aim for the Outputs

- Produce a document detailing the approach taken and the values derived
- Aim is for the document to become:
  - a useful free resource (e.g. similar to the EIC GAC document) to assist risk assessors, and,
  - increase awareness and assessment of the groundwater vapour to indoor air pathway

- May drive more Soil Vapour Sampling
- May drive more DQRA

Any questions……