

Outcomes from the SoBRA 2017 Summer Workshop

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December 2017

June 2017 – Summer Conference

St George's Place, Liverpool

**‘Vapour
Intrusion to
Support
Sustainable
Risk-Based
Decision
Making’**



Speakers

- **Judith Nathanail (Land Quality Management)** - The importance of the CSM in VI investigations
- **Jonathan Cundall (NHBC)** - What can go wrong with installed mitigation measures on-site?
- **Neil O'Regan (Shawcity)** - Common pitfalls when sampling VOCs
- **Tom Parker (Atkins)** - A case study demonstrating how do we model including the effect of capillary fringe.
- **Matt Lahvis (Shell)** – Update on vertical screening distances for petroleum vapour intrusion risk assessment.
- **James Lucas (EPG)** - What are the options going forward –can we learn from Australia?

Workshops

Group 1: Conceptual site model – what are the data gaps/uncertainties and how can they be completed?

Group 2: Site investigation – agreement on what does ‘good’ look like, what stops us doing this and what are the benefits of doing it well.

Group 3: Risk assessment – current data gaps/uncertainties and how they may be completed - petroleum and chlorinate.

Group 4: Risk assessment techniques and how we can proactively manage ‘when things don’t go to plan’.

Group 1. CSM, Outcomes

- Ensure industry considers VI at every site where there is a credible VI source;
- Ensure industry understands the importance of preferential pathways to the VI pathway;
- Provision of vapour phase monitoring, given that estimation of the VI risk based on soil and (to a lesser extent) groundwater data is poor;
- Provision of further guidance on best practice for vapour intrusion assessment, to include: methods to collect soil vapour samples, where to collect soil vapour samples, CSMs for VI, addressing preferential pathways;
- Provision of guidance summarising the physical characteristics of a building's construction and its impact on VI.
- Increased emphasis on a lines of evidence approach to assess risk from VI.
- Collection of data to inform a distance screening approach for the UK.

Group 2. SI, Outcomes

- The need for increased consultancy staff awareness and training in vapour assessment protocols.
- Vapour-specific monitoring wells should be used more frequently for vapour risk assessments, and sufficient monitoring should be undertaken.

Group 3. RA, Outcomes

- User friendly, concise guidance (i.e. practitioner's guide) with flowcharts, differences in existing models to help practitioners make an informed decision and a specific framework for vapour intrusion assessment in the UK.
- Vapour GAC, which would also encourage the collection of empirical data. This would also necessitate a review of the suitability of the available models for both vGAC for groundwater and soil vapour and approaches to inform the methodology.
- Input parameters needed for an empirical database that would inform UK validated screening tools. This would necessitate a review in the difference in conceptual model for properties in the UK by comparison to existing screening distance tools to make sure appropriate input parameters were collected.

Group 4. Mitigation, Outcomes

- Vapour membranes should be considered as the last line of defence.
- Vapour membrane installers and validators should be “competent”, with consideration given to an industry definition of competency.
- Vapour membrane suppliers should provide greater standardisation within the testing regime for their products.
- SoBRA should consider organising training sessions to provide a much-needed enhanced understanding of vapour modelling, particularly the J&E model.
- SoBRA should consider setting up a sub-group to develop soil-vapour GAC.
- Industry should consider producing an update to the CIRIA C682 vapour handbook (CIRIA, 2009).

The Role of SoBRA

To improve technical knowledge in risk-based decision-making related to land contamination applications and to enhance the professional status and profile of practitioners.

Q. How do we do this for Vapour Intrusion?

*Taking all the outcomes from the 2017 Summer Workshop and forming a **Working Sub-Group for Vapour Intrusion.***

*Building on SoBRA's work relating to groundwater vGAC report
(as published February 2017.)*