

# PART 201 Technical Advisory Group 3: Vapor Intrusion *Meeting Summary 2*

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Wednesday, July 21, 2014  
1:00–4:00 PM  
Public Sector Consultants, Lansing, Michigan

## **TAG Members**

<b>Attendees</b>	
Jeffry Crum	Hamp Mathews
Tom Szocinski	AKT Peerless
Tom O’Connell	ERM
Steve Song	ENVIRON Corporation
Matt Williams	Michigan Department of Environmental Quality
Carrie Geyer	Michigan Department of Environmental Quality
Dr. Stuart Batterman (teleconference)	University of Michigan
Christina Bush	Michigan Department of Community Health

## **Project Staff**

Julie Metty Bennett	Public Sector Consultants
Shanna Draheim	Public Sector Consultants

## **Observers**

Ed Peterson	General Motors
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The second meeting of the Vapor Intrusion Technical Advisory Group (TAG) for the Michigan Department of Environmental Quality (MDEQ) Part 201 project was held on Wednesday, July 21, 2014, at Public Sector Consultants (PSC).

## **REVIEW OF SUMMARY OF MEETING 1**

The TAG reviewed the summary of the second TAG meeting. There were no recommended changes to the document.

## **REVIEW OF “STEPS AND PROCESSES FOR INVESTIGATING THE VAPOR INTRUSION RISK” DOCUMENT**

PSC circulated this document just prior to the second meeting, and the TAG spent the entirety of meeting two discussing and refining each of the drafts steps and processes laid out in the document.

### **Step 1: Initial Screening Based on Conceptual Site Model (CSM)**

The group agreed that this step should be re-labeled as “Develop a Conceptual Site Model (CSM),” and that the rules should direct property owners to develop a thorough CSM using appropriate, current standards (such as ASTM’s Standards for Developing a CSM). The Step 1 process could describe a CSM as having elements such as:

- Document historical use of volatile chemicals *present* [added by the TAG at the meeting] at the site.
- Identify the type and location of receptors on the site.
- Use any existing environmental assessments to identify confirmed or suspected vapor intrusion pathways.

The TAG also agreed that the CSM does not need to be submitted to MDEQ for approval, unless a property owner requests it as part of a response activity plan.

### **Step 2: Apply Conservative Screening Levels**

The TAG discussed Step 2 and the questions posed regarding the process and outcomes. The group maintained that the CSM is what determines which media is to be evaluated as part of the vapor intrusion pathway investigation, and that the rules should not dictate any particular media (or combinations of media). Discussion followed regarding whether the rules should include direction that, if using just soil samples, property owners must ensure that the soil sample is taken at the source. Ultimately, the group agreed that the rules should reference guidance documents about appropriate sampling protocols.

The TAG discussed whether the conservative screening values should be taken from EPA’s empirical database or calculated using the Johnson and Ettinger (J&E) model. The group agreed it made sense to use J&E, even for the most generic screening levels, because users can start simple and develop towards more complex with that model at each step. The group also expressed their lack of confidence in EPA’s empirical database values because the sites largely represent non-mid-west locations and the database can’t be used for non-residential properties.

The TAG discussed whether the screening values should default to certain values (e.g., soil criteria protective of drinking water). The group tabled this decision for possible input or decision by the CSA group instead.

Finally, the group discussed and agreed that Step 2 should mirror other non-vapor intrusion criteria and provide screening levels for both residential and non-residential use. The values should be conservative enough that they apply to all sites—even those with earthen basements, sump pumps, etc.

After discussing and reaching agreement on these high-level questions and issues (as well as those in Step 3 below), the group began to develop specific variables and boundaries for calculating the conservative screening values for groundwater. These variables, as well as drafts for soil and soil gas, will be summarized by PSC in a revised “Steps and Processes for Evaluating Vapor Intrusion Risk” document which will be reviewed and discussed at the next TAG meeting.

### **Step 3: Apply Semi-Site-Specific Criteria**

The group discussed the process, outcomes and questions associated with Step 3. On the process side, the group agreed with the steps laid out, and the choices available for the semi-site-specific

criteria (SSC). The group did suggest adding a choice in the calculator though for building type: residential or non-residential. They agreed this step should focus on variables below ground rather than building conditions (e.g., crawl space, earthen basement, existence of a sump pump).

In terms of the potential outcomes of this step, the group modified the first and added a second bullet regarding outcomes if samples were below semi-site specific criteria. The first two outcomes are now:

- If below SSC for residential, no restrictions on the property and no further investigation is required.
- If below SSC non-residential, restriction to non-residential use is required but no further investigation is required

When samples are above SSC, there was not yet agreement among the group on the outcome. There was a significant discussion about whether Step 3 is the point at which “facility” status is determined and the TAG agreed to table this discussion until the actual values are developed.

Finally, the group briefly discussed how non-aqueous phase liquids (NAPLs) should be considered. The group agreed that if it doesn’t violate any of the assumptions here, SSC can be used for NAPL sites.

#### ***Step 4: Site-Specific Assessment and Step 5: Remediation and/or Controls***

The TAG did not talk about Steps 4 and 5 in significant detail. The group felt that the process and outcomes were generally right, but these may need to be tweaked once the group has developed specific values and decision points for Steps 2 and 3. For example, there was some discussion of whether the split between chlorinated hydrocarbons and petroleum hydrocarbons should happen sooner than Step 4.

## **NEXT STEPS**

PSC will work to schedule the next TAG meeting in mid-August, possibly arranging a full-day meeting. The next meeting will be at the PSC office at 230 N. Washington Square, Lansing, MI.

At least 3 days in advance of the meeting, PSC will share a revised description of the stepwise process that includes the specific variables and values to include in the model at Steps 2 and 3. The revised draft will summarize the values developed by the TAG at the July 21<sup>st</sup> meeting for groundwater at Step 2. In addition—based on the discussion and process used for developing groundwater variables—PSC will develop strawman values for soil and soil gas in Step 2 and all three media in Step 3 for further discussion and refinement at the meeting.