

## RR-800 DRAFT OUTLINE

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## I. PURPOSE, APPLICABILITY, & OBJECTIVE

The purpose of this program guidance is to identify the conditions where assessment of the vapor intrusion pathway at contaminated sites is necessary, set out the criteria for determining health risk, identify appropriate responses, and clarify when sites with a complete or potential vapor migration pathway may achieve closure. Anyone applying this guidance to a contaminated site must also comply with the Chapter NR 700 rule series, including assessment and remediation of all pathways of concern.

This procedural guidance is applicable to all contaminated sites<sup>1</sup> where volatilization of subsurface contaminants<sup>2</sup> has the potential to migrate to current or future occupied buildings. Readers are referred to U.S. EPA, ITRC, other DNR, or similar documents for guidance on methods of sample collection, calculation of exposure risk, laboratory methodology, and similar topics. Unless otherwise noted, all provisions in this guidance apply to the responsible party and/or property owner of a contaminated site.

The goal for following the process in this guidance is to **demonstrate with data that vapor intrusion is not a risk to current or potential future receptors. A determination of no vapor intrusion risk may occur at different stages of a vapor intrusion assessment, depending on site conditions and data.** These include, but are not limited to the following stages:

- after site screening,
- following evaluation of vapor investigation data,
- following performance verification for a vapor mitigation system,
- after remediation and confirmation sampling.

Each site is unique, and therefore the specific approaches and data used to meet the objective will vary. This guidance is intended to be flexible to allow responsible parties and other interested persons to move efficiently through the process for vapor intrusion assessments.

**The outline provided below identifies the key components to be included in the revision to RR-800. Items that will remain similar to the current guidance are stated as such. Items that are new or changed from the current guidance are highlighted in yellow.**

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<sup>1</sup> Contaminated sites refers to those sites and facilities that are subject to regulation under Wis. Stat. § 289 and 292.

<sup>2</sup> This guidance does not apply to naturally occurring radon gas or methane.

## II. OVERVIEW OF THE VAPOR INTRUSION PATHWAY

Keep similar to Section II.

Add: Does this apply to radon gas? Does this apply to methane?

Add: Graphic

## III. SCREENING FOR VAPOR INTRUSION

### A. SITE CONCEPTUAL MODEL

Recommendation only, but highlight importance and usefulness.

Identify features to include in the site conceptual model.

### B. PETEROLEUM VOC CRITERIA

Keep similar to Section IV.A, but update with new distance criteria from ITRC

### C. CHLORINATED VOC CRITERIA

Keep similar to Section IV.B

### D. FACTORS AFFECTING SCREENING CRITERIA

Keep similar to Section IV.C

## IV. COMMUNITY OUTREACH

Highlight importance, and link to U.S. EPA and Department examples and templates. Put after screening, because if investigation is needed, community outreach may be required at this stage to get access to properties.

Add access discussion on good-faith effort and link to guidance on steps when access is denied.

## V. INVESTIGATING FOR VAPOR INTRUSION

Keep intro similar to Section V., but restate goal of showing sufficient conclusive data to make determination. The content will be similar to Section V of current RR-800, but reorganized to fit outline below.

### A. COLLECTING VAPOR SAMPLES

Link this to RR-986, but list/define the various sample approaches, and quality control.

Increase discussion and references to passive sampling approaches.

## **B. RESIDENTIAL PROPERTIES**

Update for current indoor air/subslab paring, and three rounds of seasonal sampling.

## **C. COMMERCIAL AND INDUSTRIAL PROPERTIES**

Keep similar, but highlight site-specific approaches can vary based on site conceptual model. Provide indication on number of samples for method types.

## **D. UNDEVELOPED PROPERTIES**

Keep similar to Section V.B

# **VI. EVALUATING VAPOR INTRUSION INVESTIGATION DATA**

Keep intro similar to Section VI.

## **A. BACKGROUND VAPORS**

Use text from Section III of current RR-800.

## **B. VAPOR ACTION & VAPOR RISK SCREENING LEVELS**

Keep link to Vapor Action Levels and discussion on how to calculate vapor screening levels. Use text within Section VI.A, and keep discussion general for large building characteristics.

Add discussion on TCE as acute risk potential.

Update to the new default attenuation factors: 0.03 for subslab residential, and no distinction between deep and shallow soil gas, consider where to categorize utilities?

Add: discussion on determination of site specific attenuation factors.

## **C. DETERMINATIONS FROM VAPOR DATA**

Keep similar text to Section VI.B.

## **D. ROLE OF THE DHS IS EVALUATING RISK FROM VAPOR INTRUSION**

Keep similar text to Section VI.C, and add link to RR-934.

# **VII. RESPONSE ACTIONS FOR VAPOR INTRUSION**

## **A. IMMEDIATE ACTION**

Keep text from Section VII intro and Section VIII.C.1

## **B. REMEDIATION**

Keep similar to Section VII.A to emphasize that remediation should be priority

## **C. MITIGATION**

Keep text similar to VII.A on mitigation. Describe that when remediation not possible or does not remove VI risk, we can mitigate VI by controlling air pressure, through dilution, or with a physical barrier.

Define the mitigation options like VII.A.

Define when to apply mitigation

### **1. PRE-EMPTIVE MITIGATION**

Define and state not preferred b/c of the requirements for long-term OM&M.

### **2. EXISTING BUILDINGS**

Emphasize that diagnostic may be needed to complete the design. Distinguish between occupied and unoccupied.

### **3. FUTURE CONSTRUCTION**

Keep the text similar.

## **VIII. OM&M AND LONG-TERM STEWARDSHIP FOR VAPOR**

### **INTRUSION MITIGATION**

Emphasize this as critical last step. Without complete OM&M, the vapor risk is not considered to be mitigated. This may link to a separate guidance for specific OM&M expectations for common vapor mitigation approaches.

#### **A. MAINTENANCE PLAN**

Link to RR-981 for general requirements.

#### **B. COMMISSIONING**

Emphasis will be on performance verification to show that design criteria are achieved and document baseline conditions.

#### **C. LONG-TERM STEWARDSHIP**

Document how maintenance will be maintained into the future, and expectation for frequency, reporting, and audits.

## D. DECOMMISSIONING CRITERIA

Summary of criteria for when Department can approve removal of vapor mitigation control.

## IX. CLOSURE OF SITES

Restate that when **vapor intrusion is demonstrated to with data to not to pose a risk to current or potential future receptors**, closure is possible. List general examples of what this might look like

Examples:

- Site conceptual model shows that VI is not a current or potential future risk
- Vapor samples below VISLs and vapor investigation determined complete
- Subslab sampling above VISLs, performance monitoring shows current building conditions mitigating VI, and OM&M Plan in place to maintain conditions mitigating vapor (e.g. concrete slab and HVAC system).
- Samples over VISLs and mitigation system in place, performance verification (commissioning) complete, and a OM&M Plan in place for continued operation of the vapor mitigation system
- Original samples over VISLs, remedial action complete, post-remediation confirmation vapor samples below VISLs.