Remediation and Redevelopment Program

Issues & Trends 2015

June 3, 2015
12:00 p.m. – 1:00 p.m.

Dial: 1-855-947-8255
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Questions will be taken during the presentation or can be submitted to DNRRRComments@wisconsin.gov
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DNR Case Closure: Vapor Intrusion
Continuing Obligations

Introducing New Guidance
Documents
NR 726.15 lists 13 continuing obligations (CO) that may be imposed on a property
- CO usually imposed on a property at the time of closure
- CO may be imposed at the time of Remedial Action Plan (RAP) approval (NR 722.15(d)5)
Current DNR CO Guidance

- RR-606, Guidance for case closure and requirements for managing continuing obligations
- RR-819, Continuing obligations for environmental protection: responsibilities for Wisconsin property owners
- Other forms and template letters for notification, inspection/maintenance, etc.
Goals of Vapor Intrusion CO Guidance

• Interpret NR 726.15(2)(h) through (L)
• Clear expectations for Responsible Parties, consultants, property owners and DNR staff regarding future CO that may apply to properties
• Consistent application of CO across the state
When are two documents better than one?

- External guidance document
  - RR-042, DNR Case Closure Continuing Obligations: Vapor Intrusion

- Internal DNR guidance document
  - RR-5474, Vapor Intrusion Continuing Obligations Applied in DNR Closure Approvals
5. Continuing Obligations: Situations where sites, including all affected properties and rights-of-way (ROWs), are included on the DNR’s GIS Registry. In certain situations, maintenance plans are also required, and must be included in Attachment D.

Directions: For each of the 3 property types below, check all situations that apply to this closure request. (NOTE: Monitoring wells to be transferred to another site are addressed in Attachment E.)

<table>
<thead>
<tr>
<th>This situation applies to the following property or Right of Way (ROW):</th>
<th>Maintenance Plan Required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Property Type:</strong></td>
<td></td>
</tr>
</tbody>
</table>
| **Source Property** | **Affected Property** | **ROW** | **Case Closure Situation - Continuing Obligation**
| Inclusion on the GIS Registry is Required (ii. - xiv.) | |
| i. | | | None of the following situations apply to this case closure request. NA |
| ii. | | | Residual groundwater contamination exceeds ch. NR 140 ESs. NA |
| iii. | | | Residual soil contamination exceeds ch. NR 720 RCLs. NA |
| iv. | | | Monitoring Wells Remain:
| | | • Not Abandoned (filled and sealed) NA |
| | | • Continued Monitoring (requested or required) Yes |
| v. | | | Cover/Barrier/Engineered Cover or Control for (soil) direct contact pathways (includes vapor barriers) Yes |
| vi. | | | Cover/Barrier/Engineered Cover or Control for (soil) groundwater infiltration pathway Yes |
| vii. | | | Structural Impediment: impedes completion of investigation or remedial action (not as a performance standard cover) NA |
| viii. | | | Residual soil contamination meets NR 720 industrial soil RCLs, land use is classified as industrial NA |
| ix. | | | Vapor Mitigation System (VMS) required due to exceedances of vapor risk screening levels or other health based concern Yes |
| x. | | | Vapor: Dewatering System needed for VMS to work effectively Yes |
| xi. | | | Vapor: Compounds of Concern in use: full vapor assessment could not be completed NA |
| xii. | | | Vapor: Commercial/industrial exposure assumptions used. NA |
| xiii. | | | Vapor: Residual volatile contamination poses future risk of vapor intrusion NA |
Situation ix. VMS required

• If a system must operate and/or be maintained after site closure in order to interrupt or mitigate the vapor pathway, then NR 726.(2)(h) requires a CO
VMS Conditional Obligation is **NOT** a

**NR 722.09(2)(d)**1. active remedial actions shall be taken

**NR 726.05(8)(b)**1. remedial action has reduced mass and concentration of VOCs to the extent practicable

**NR 726.05(4)(e)** must document that remaining contamination is not likely to cause exceedance of a VAL
Closure Conditions, Situation ix

- VMS operated until no longer needed
- Performance of maintenance
- O&M Plan available to occupants
- 45 day notification prior to changing use of VMS
- Maintenance of structural features
- O&M logs
- Post-closure submittal of logs, if required
Situation x. Dewatering System

• NR 736.15(2)(j) requires a CO when dewatering is necessary to allow a VMS to operate.
• This CO is always used with Situation ix.
• Discharge of contaminated water
Closure Conditions, Situation x

- Description of the specific hydrogeologic conditions requiring the condition
- O&M of the water control system
- 45 day notification of the DNR prior to changes to the system
- Requirements to maintain wastewater discharge requirements/permits
Situation xi. Compounds of Concern in Use

• NR 726.15(2)(i) states that the DNR may restrict the use or occupancy of a property where compounds of concern are in use to ensure closure will be protective.

• A VMS may be required at these properties
Closure Conditions, Situation xi

- Restriction on occupancy to current use
- 45 day notification to DNR prior to change in land use
- Evaluation of the VI pathway required prior to changing use to residential
- Description of the type and location of residual contamination
Situation xii.
Commercial/Industrial Exposure

- NR 726.15(2)(k) requires restricted use or occupancy at properties where commercial/industrial exposure assumptions are applied
- Document exposure assumptions used to assess VI pathway and current land use of property
Closure Conditions, Situation xii

- Exposure assumptions upon which closure based
- Restriction in occupancy or use
- 45 day notification if land use changes to residential setting
- Additional VI pathway assessment may be needed for a residential setting
Situation xiii. Future Risk of VI

• NR 726.15(2)(L) states where residual VOCs exist and no building is present, DNR may require measures to eliminate or control VI into a future building

• Future building = new building or expansion of existing building where the foundation is near or above residual contamination
Situation xiii. Future Risk of VI

- CO states that vapor control technology will be designed into the future building prior to construction

  UNLESS

- Risk of VI is assessed (prior to building construction) and the DNR agrees that VI control technologies are not needed
Situation xiii. Future Risk of VI

- Future VMS expected to actively remove vapors. Passive VI systems should be designed for conversion to active systems.
- Undeveloped properties adjacent to vapor source
  - SI should establish whether vapor migration would be a risk to a future building on an adjacent property.
### Triggers to Apply Vapor Intrusion Continuing Obligations

(Numbers in this table are only recommendations. All decisions for applying continuing obligations are made on a site-by-site basis.)

<table>
<thead>
<tr>
<th>Continuing Obligation Options</th>
<th>Criteria for Application of VI Options</th>
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</thead>
<tbody>
<tr>
<td>Case Closure-GIS Registry Form 4400-202</td>
<td>Chlorinated VOCs</td>
</tr>
<tr>
<td>(ix) O&amp;M of VMS needed to protect VI pathway</td>
<td>Sub-slab &gt; VSRL</td>
</tr>
<tr>
<td>(x) Hydrologic control for VMS to operate effectively</td>
<td>Sub-slab/sump air &gt; VRSL Water table intersects foundation</td>
</tr>
<tr>
<td>(xi) Compounds of Concern in use</td>
<td>Sub-slab &gt; VRSL Solvent use in building at time of closure</td>
</tr>
<tr>
<td>(xii) Commercial/Industrial Exposure Assumption</td>
<td>Sub-slab &gt; Commercial/industrial VRSL Solvent NOT in use at time of closure</td>
</tr>
<tr>
<td>(xiii) Future Construction. Includes remodeling or additions on an existing building. (assumes: 1) there are no preferential pathways between the new building and residual VOC source and 2) the groundwater plume is stable or receding)</td>
<td>If any of the following exist: Soil: GW-RCL for PCE/TCE met or exceeded anywhere in vadose zone on property GW ≥ES on property GW ≥ PAL if contaminated groundwater may contact building foundation</td>
</tr>
</tbody>
</table>

**Notes:**
1. Remedial action/source control should be performed prior to closure request when operation of a vapor mitigation system (VMS) is necessary to protect the vapor pathway, as required by NR 726.05(8).
2. If a VMS is installed and operating, documentation of the system installation and effectiveness is required by NR 724.15.
3. An O&M plan, including all requirements of NR 724.13(2)(k) must be submitted with the closure request. An O&M plan should have been provided to the property owner and DNR at the time of VMS installation.
Questions

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Issues & Trends 2015

July 1, 2015
12:00 – 1:00 p.m.

NR 718 Issues
Contaminated Soil / Solid Wastes

Audio from today’s presentation and information about this and future Issues & Trends Series can be found on the RR Program Training Webpage at: dnr.wi.gov/topic/Brownfields/Training.html

Questions / Comments / Suggestions regarding the Issues & Trends Series can be submitted to:

DNRRRRComments@wisconsin.gov

Thank you