

## Chapter 135 amendments – New Water Line Pathway Rules

Posted: 10/8/2010

The revisions to IAC Chapter 135 relating to plastic water lines / water line evaluations, exit monitoring and confirmation sampling became effective on 9/29/10. Please see the following link to view the most current version of IAC Chapter 135:

<http://www.legis.state.ia.us/asp/ACODocs/DOCS/9-22-2010.567.135.pdf>

The changes relating to exit monitoring criteria and confirmation sampling can be implemented immediately. Refer to revised sections of IAC 135.12(5) and IAC 135.12(6), which are Item 20 and Item 21 of the Iowa Administrative Bulletin published 4/7/10.

For further information specific to these latest revisions, please see the following link to the Iowa Administrative Bulletin published 4/7/10.

<http://www.legis.state.ia.us/asp/ACODOCS/DOCS/04-07-2010.Bulletin.pdf>

### **Procedural Guidance:**

The other changes to IAC 135, which relate to the risk based evaluation of water lines, will require a transition period to accommodate submittals completed under the old rule but not yet received by the DNR and to allow for the development of new Tier 2 software. This transition period will be 10/30/10 until 30-days after the new Tier 2 software is released. You may wait for the new software (a written time extension must be submitted if the report submittal deadline falls within the transition period) or submit a written plan (either email or letter) to the DNR project manager detailing what report(s) will be submitted and corrective action if applicable will be completed during the transition period. Please note the Tier 2 may have been accepted under the old Tier 1 target levels but the corrective action (i.e., overexcavation) will occur under the new Tier 1 target levels. DNR is issuing the following transition guidance for risk based corrective action (RBCA) activities:

1. Any report requesting no action required and received before 10/30/10 will be reviewed using Chapter 135 rules that were in effect prior to 9/29/10. The DNR acknowledges some reports will have been completed just prior to 9/29/10 and this should accommodate them. Reports received on or after 10/30/10 will be reviewed with the current version of Chapter 135.
2. Tier 1 Reports submitted to the department must now incorporate the new rules, including the revised Tier 1 Look-Up table effective 9/29/10. Tier 1 Reports received by the department after 10/29/10, which do not incorporate the revised rules into the Tier 1 evaluation of the soil to water line and groundwater to water line pathways, will be rejected.
3. Site Monitoring Reports submitted 30 days after the new software is released must be completed following the current version of Chapter 135 and with the new software.
4. All other reports:

- If the report is received before 10/30/10 it will be reviewed using Chapter 135 rules that were in effect prior to 9/29/10. The DNR acknowledges some reports will have been completed just prior to the rule change and this should accommodate them.
- Reports received on or after 10/30/10 and within 30 days after the new software is released will be completed and reviewed using the transition guidance. If the water line pathway is complete in accordance with the revised rules effective 9/29/10, please contact the DNR project manager to discuss submittal requirements during the transition period. If the water line pathway is not complete under the revised rules, the report may be completed using Tier 2 software 2.51, 3.0, or the new software whichever is applicable. Refer to the 2/25/10 web posting.
- Reports received 30 days after the new software is released must be completed following the current versions of Chapter 135 and with the new software.

## **Technical Guidance:**

In recognition that Chapter 135 stipulates that the Tier 2 model shall be used to determine risk at Tier 2 and that there will be some lag time between the adoption of new RBCA standards for water lines and when the necessary changes to the Tier 2 software are completed the DNR provides the following transition policy. These guidelines are intended to assist in completion of RBCA reports in the absence of updated modeling software. However, there may be alternatives for completing the water line pathway evaluations not covered in these guidelines. As such, certified groundwater professionals (CGPs) are encouraged to discuss with the DNR project manager the evaluation approach that will be incorporated prior to submittal of reports.

Beginning October 30, 2010:

- 1) All Tier 1 Reports submitted to the department must incorporate the revised Tier 1 look table effective 9/29/10.
- 2) All Tier 2 Reports submitted to the department must use the following procedures in addition to the Tier 2 software to evaluate risk to drinking water transmission lines (mains and service). This includes all water lines connected to the drinking water transmission system:
  - For soil: Use the Tier 2 software to contour the soil plume to the applicable target levels for each the water line type as identified in the Tier 1 look up table effective 9/29/10. Then the CGP must use the contoured area plus 10 feet as the receptor identification plume. (Note: the toluene soil benzene target level is significantly lower than the former target level. Consequently, new receptors may exist that were not previously flagged as high risk under the former rules & target levels).
  - For soil leaching: If the maximum soil AND groundwater concentrations exceed an applicable target level for a water line receptor and a water line receptor is present within 200 feet of the largest contoured plume (either soil or groundwater), the water line receptor will be considered high risk for the soil leaching to water line pathway at Tier 2. The corrective action area will be the soil plume contoured to the applicable soil target level.
  - For groundwater: If there are water lines within 200 feet of the groundwater maximum and the applicable target level as identified in the Tier 1 look up table effective 9/29/10 is exceeded, then the water line will initially be considered an actual receptor (high risk) at Tier

2. The SSTL would be the applicable Tier 1 default target level and the corrective action area would be actual plume contoured to that target level. If it can be established there is a three-foot separation between the highest groundwater level and the water line, it may be possible to justify a water line is not at risk (refer to existing rule and guidance)

A Tier 3-type approach could also be used to further evaluate risk for the groundwater to water line receptor pathway. Some possible approaches include documenting plume stability then using the actual plume as the area of concern. The CGP could also propose using an alternative model or, during this interim period only, using the existing Tier 2 software to generate an RID plume for the next lowest SSTL. For example: The maximum benzene concentration at a site exceeds a target level for a PVC service lines and a PVC service line is located within 200 feet of the maximum. The GCP could further evaluate the risk here and estimate an SSTL, corrective action area, etc. by utilizing the Tier 2 software groundwater vapor to confined space receptor evaluation which has a similar but slightly lower target.

- 3) For sites where the RBCA assessment has been completed and a site risk classification of high or low risk has already been assigned, the water line receptors should be evaluated in accordance with the new rules and results reported by October 30, 2011. DNR anticipates a revised Tier 2 software package will be available by spring, 2011.
- 4) For RBCA reports requesting reclassification to no action required but which were submitted prior to September 29, 2010. DNR will review these reports on a case-by-case basis and may request further information/assessment prior to approval of the no action required recommendation.

For reference: Appendix A – Tier 1 Table is on page 80 of amended Chapter 135.

Iowa Tier 1 Look-Up Table Media	Exposure Pathway	Receptor	Group 1				Group 2: TEH	
			Benzene	Toluene	Ethylbenzene	Xylenes	Diesel*	Waste Oil
Groundwater (µg/L)	Groundwater Ingestion	Actual	5	1,000	700	10,000	1,200	400
		Potential	290	7,300	3,700	73,000	75,000	40,000
	Groundwater Vapor to Enclosed Space	All	1,540	20,190	46,000	NA	2,200,000	NA
	Groundwater to Water Line	PVC or Gasketed Mains	7,500	6,250	40,000	48,000	75,000	40,000
		PVC or Gasketed Service Lines	3,750	3,120	20,000	24,000	75,000	40,000
		PE/PB/AC Mains or Service Lines	200	3,120	3,400	19,000	75,000	40,000
	Surface Water	All	290	1,000	3,700	73,000	75,000	40,000
Soil (mg/kg)	Soil Leaching to Groundwater	All	0.54	42	15	NA	3,800	NA
	Soil Vapor to Enclosed Space	All	1.16	48	79	NA	47,500	NA
	Soil to Water Line	All	2.0	3.2	45	52	10,500	NA

NA: Not applicable. There are no limits for the chemical for the pathway, because for groundwater pathways the concentration for the designated risk would be greater than the solubility of the pure chemical in water, and for soil pathways the concentration for the designated risk would be greater than the soil concentration if pure chemical were present in the soil.

TEH: Total Extractable Hydrocarbons. The TEH value is based on risks from naphthalene, benzo(a)pyrene, benz(a)anthracene, and chrysene. Refer to Appendix B for further details.

Diesel\*: Standards in the Diesel column apply to all low volatile petroleum hydrocarbons except waste oil. See Appendix A for Assumptions Used for Iowa Tier 1 Look-up Table Generation