



STATE OF IOWA

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DEPARTMENT OF NATURAL RESOURCES
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September 22, 2015

Ms. Susan Fisher, On-Scene Coordinator
U.S. EPA, Region 7
8600 NE Underground Drive, Pillar 253
Kansas City, KS 64161

CON 12-15
Doc #31241

RE: ARARs for the PCE Chestnut Street Site
Atlantic, Iowa

Dear Ms. Fisher:

This letter is in response to the letter from Kenneth S. Buchholz dated September 15, 2015 to Cal Lundberg with the Iowa Department of Natural Resources (Iowa DNR) Contaminated Sites Section regarding a removal action at the PCE Chestnut Street Site. The following are potential IDNR applicable or relevant and appropriate standards (ARARs) for the removal action.

Chemical-Specific ARARs

A. Notification of Hazardous Conditions

- 1) **Chapter 567 IAC 131** contains the department's general definitions of hazardous substances, hazardous conditions and the associated reporting requirements.

B. Soil

- 1) **Chapter 567 IAC 133.** Paragraph 567 IAC 133.4(3) "b"2 prescribes that where significant amounts of contamination is present in soils such that groundwater contamination is occurring or likely to occur, active cleanup of contaminated soil shall be implemented to the extent reasonable and necessary to prevent or minimize the release to groundwater.
- 2) **Rule 567 IAC 135.9 (455B)** prescribes risk-based soil screening levels for contaminants related to underground storage tanks in a Tier 1 Look-Up Table. Soil screening levels are prescribed for the following categories: soil leaching to groundwater, soil volatilizing and migrating as vapors to an enclosed space, and soil permeating into water lines.
- 3) **Chapter 567 IAC 137.** Subrule 567 IAC 137.5(5) prescribes statewide standards for exposure to contaminants in soil by oral ingestion and dermal contact. These standards are applicable to a residential setting. Soil standards for deep soil (generally >10 feet deep) in a residential area are 10 times the statewide standard according to Paragraph 567 IAC 137.6(6)"a".

Subrule 567 IAC 137.6(6) prescribes site-specific soil standards based on soil depth in non-residential areas. Two depth categories (<2 ft. deep and >2 feet deep) are prescribed. Subrule 567 IAC 137.10(7) specifies cumulative risk criteria for compliance. Chemical-specific soil standards are not prescribed for soil in a non-residential setting. Instead, non-residential soils must be assessed based on cumulative risk. Cumulative risk is based on all applicable routes of exposure including soil ingestion and dermal contact. An on-line cumulative risk calculator is available at the following Internet address:
<https://programs.iowadnr.gov/riskcalc/pages/calculator.aspx>

C. Vapors.

- 1) **Chapter 567 IAC 28** specifies ambient air quality standards which are National Primary and Secondary Ambient Air Quality Standards. These standards generally not needed as ARARs.

Subrule 567 IAC 137.6(9)“c” prescribes site-specific air standards for the state’s voluntary cleanup program. In a workplace setting, applicable OSHA air standards are used. Otherwise, site-specific vapor standards are computed based on risk. As with non-residential soils, standards for individual contaminants in air have not been established. For locations where OSHA standards are not applicable, site-specific standards for air in a confined space shall be risk-based using the chemical-specific toxicity values of inhalation unit risk (UR) and inhalation reference concentration (RfC) determined in accordance with paragraph 137.5(3)“c.”

D. Groundwater.

- 1) **Chapter 567 IAC 133** contains the department’s general groundwater cleanup rules. Rule 567 IAC 133.2 (455B, 455E) specifies groundwater “action levels”. Chapter 133 action levels are applicable to all groundwater in the state. Action levels in Chapter 133 are based on drinking-water exposure only. Action levels are prescribed as the lifetime health advisory level (HAL), if one exists. If a HAL does not exist, the negligible risk level (NRL) is prescribed as the action level, if one exists. The NRL is defined as the concentration estimated to result in one additional cancer per million people exposed over a lifetime. If neither a HAL nor a NRL exists, the action level is prescribed to be the enforceable maximum contaminant level (MCL) established by EPA pursuant to the Safe Drinking Water Act. If there is no HAL, NRL, or MCL, an action level may be established by the department based on current technical literature and recommended guidelines of EPA and recognized experts, on a case-by-case basis. (NOTE: The department typically defers to statewide standards for a protected groundwater source from Chapter 567 IAC 137 in lieu of the above-prescribed action levels.)
- 2) **Rule 567 IAC 135.9 (455B)** prescribes risk-based screening levels for groundwater for contaminants from underground storage tanks in a Tier 1 Look-Up Table. Groundwater standards are prescribed for actual and potential receptors. In addition, risk-based groundwater screening levels are prescribed for the same contaminants in groundwater that are a potential source of contamination to: vapor in an enclosed space, water lines

(separate standards are prescribed for 3 types of water line materials), and surface water.

- 3) **Chapter 567 IAC 137** is the state's voluntary cleanup program. Statewide standards for groundwater are prescribed for protected and non-protected groundwater sources based on drinking-water exposure only. A protected groundwater source means a saturated bed, formation, or group of formations which has a hydraulic conductivity of at least 0.44 meters per day (m/d) and a total dissolved solids concentration of less than 2,500 milligrams per liter (mg/L). A non-protected groundwater source has a hydraulic conductivity of less than 0.44 m/d a total dissolved solids concentration of greater than 2,500 mg/L.
- 4) The following tables show applicable chemical-specific groundwater ARARs.

Table of Chemical-Specific ARARs for Groundwater as Drinking Water

Chemical	Chapter 133 Action Level (mg/L)	Chapter 135 Risk-Based Screening Level (RBSL) (mg/L)		Chapter 137 Statewide Standard (mg/L)	
		Actual	Potential	Protected	Non-Protected
PCE	0.005	NA	NA	0.005	1.7
TCE	0.005	NA	NA	0.005	0.076
trans-1,2-DCE	0.1	NA	NA	0.1	0.7
cis-1,2-DCE	0.01*	NA	NA	0.07*	0.35
Vinyl Chloride	0.002	NA	NA	0.002	0.01

*Chapter 133 specifies that, when applicable, the HAL be used for an Action Level. The HAL for cis-1,2-DCE is 0.01 mg/L. Chapter 137 uses the MCLs for the Statewide Standards. The MCL for cis-1,2-DCE is 0.07 mg/L.

E. Surface Water.

- 1) **Chapter 567 IAC 61** specifies water quality standards for surface waters based on water-use classifications.

Action-Specific ARARs

- A. Environmental Covenants. Chapter 567 IAC 14.
- B. Permits for stationary air emission sources. Chapter 567 IAC 22. Small unit exemptions exist for VOCs emission of less than 5 tons/year, if the owner or operator maintains an on-site exemption justification document that documents the rate of emission as being less than the amount eligible for the exemption.
- C. Private well construction permits. Chapter 567 IAC 38. Permits are not required for monitoring wells that are required as part of a department-approved project.
- D. Well abandonment requirements. Chapter 567 IAC 39.
- E. Nonpublic well construction standards. Chapter 567 IAC 49.
- F. Water withdrawal permits. Chapters 567 IAC 50-52. Water withdrawals in excess of 25,000 gallons per day require a water withdrawal permit.
- G. Storm water discharge associated with small construction activities. Chapter 567 IAC 60.
- H. Storm water discharge-permit application. Subrule 567 IAC 64.3(4).
- I. Construction and operation permits for wastewater discharges. Chapter 567 IAC 64.
- J. Laboratory certification. Chapter 567 IAC 83. Required for laboratories performing analyses of samples which are required to be submitted to the department.
- K. Sanitary disposal project permits. Chapter 567 IAC 102.
- L. Requirements for sanitary landfills accepting construction & demolition waste. Chapter 567 IAC 114.
- M. Land application of sludge and other solid wastes. Chapters 567 IAC 120 & 121.

Location-Specific ARARs

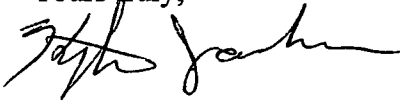
- A. Location of wells. Rule 567 IAC 49.6 (455B). Minimum separation distances from sources of contamination (generally applicable to new drinking water wells).
- B. Protected water sources. Chapter 567 IAC 53. This chapter restricts water withdrawals within specified areas.
- C. Construction in a floodplain. Chapter 567 IAC 75.

All listed regulations can be accessed from the following Internet address:

<http://www.legis.iowa.gov/law/administrativeRules/chapters?pubDate=01-23-2013&agency=567>

Please contact me at (515) 725-8338 if you need additional information regarding these ARARs.

Yours truly,



Hylton Jackson
Iowa DNR Contaminated Sites Section

cc: DNR Field Office 4