567 IAC Chapter 105, Division III – Iowa Land Recycling Program and Response Actions Standards

**The purpose of this document is to identify proposed revisions and to indicate where amendment have been incorporated within the proposed rulemaking. For ease of use, the DNR is focusing on substantive revisions within this document, and will not individually highlight minor revisions made for solely for clarification purposes.*

Subject	Rule Citation	Existing Rule	Proposed Rule Citation	Proposed Rule *(Description & Substantive Revisions)*	Iowa Code Citation	Notes/Discussion
Definitions and incorporation by reference	137.2	137.2 Definitions currently has no opening sentence before a list of definitions.	105.202	105.202(455H) Definitions. Unless otherwise noted, the definitions set forth in Iowa Code section 455H.103 which are incorporated by reference; the definitions that appear in specific rules within this chapter; and the following definitions shall apply to this chapter:	455H	The additional language incorporates definitions from Iowa Code section 455H.
Enrollment policy and procedures	137.3(2)c'1'	Soil and groundwater samples of hazardous substances which have been analyzed by a laboratory certified under 567—Chapter 83 for the analytes being tested. The laboratory analysis should establish the presence of hazardous substances under conditions which exceed or are likely to exceed a statewide standard, if a statewide standard is available. Copies of the laboratory analytical report, boring logs and a site diagram showing the location of the sampling points in relation to the site should be included.	105.203(2)c'1'	Analyses for a contaminant regulated under this division must be performed by a laboratory certified for the analyte(s) and applicable method pursuant to 567—Chapter 83.		Changed to clarify what is required of the investigation.
Site-specific standards	137.6 (9)c	*Health risk.* The U.S. Department of Labor Occupational Safety and Health Administration (OSHA) limits for air contaminants pursuant to 29 CFR 1910, Subpart Z, may be utilized	105.206	*Health risk.* 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."* Formulas II		There are no references to OSHA in 455H so they have been removed this section of rule.

		for site-specific standards in workplace settings where the OSHA standards are applicable and the contaminant of concern is used. 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."* Formulas II and III shall be used to calculate risk-based, site-specific air standards based on carcinogenic and noncarcinogenic effects, respectively, where C is the risk-based contaminant concentration in air. If a value for both RfC and UR exists for a compound, the risk-based site-specific standard will be the smaller of C resulting from Formulas II and III. (Formula II) C = AF × TR ÷ UR (Formula III) C = AF × RfC The UR and RfC toxicity values are based on a continuous exposure of 20 cubic meters per day by a 70 kg adult. The adjustment factor (AF) in Formulas II and III may be used to adjust for site-specific exposure conditions. A target cancer risk (TR)		and III shall be used to calculate risk-based, site-specific air standards based on carcinogenic and noncarcinogenic effects, respectively, where C is the risk-based contaminant concentration in air. If a value for both RfC and UR exists for a compound, the risk-based site-specific standard will be the smaller of C resulting from Formulas II and III. (Formula II) C = AF × TR ÷ UR (Formula III) C = AF × RfC The UR and RfC toxicity values are based on a continuous exposure of 20 cubic meters per day by a 70 kg adult. The adjustment factor (AF) in Formulas II and III may be used to adjust for site-specific exposure conditions. A target cancer risk (TR) of 10-4 shall be used unless another value is approved by the department.		Additionally, using OSHA standards contradicts EPA vapor intrusion guidance. 2015 OSWER Technical Guidance on Vapor Intrusion (section 7.4.3). *Permissible exposure limits (PELs) are enforceable occupational exposure standards developed by the Occupational Safety and Health Administration (OSHA) in the U.S. Department of Labor. Most of OSHA's PELs were adopted in 1971 from then-existing secondary guidance levels, such as Threshold Limit Values (TLVs) developed by the American Conference of Governmental Industrial Hygienists (ACGIH) to protect workers from adverse effects of occupational exposure to airborne chemicals. They were intended to protect workers against catastrophic effects (such as cardiovascular, liver, kidney, and lung damage), as well as more subtle effects (such as narcosis, central liver system damage, and sensory irritation).* *PELs (and TLVs), however, are not intended to protect sensitive workers, may not incorporate the most recent toxicological data, and may differ from EPA derivations of toxicity values with respect to weight-of-evidence considerations and use of uncertainty factors. For these and other reasons, EPA does not recommend using OSHA's PELs (or TLVs) for purposes of assessing human health risk posed to workers (EPA 1991c, Appendix C) by the*

		of 10-4 shall be used unless another value is approved by the department.				*vapor intrusion pathway or supporting final "no-further-action" determinations for vapor intrusion arising in nonresidential buildings.*
Institutional and technological controls	137.7(4)	*Public notification.* The department shall prepare a public notice prior to approval of any no further action classification which is conditioned upon use of institutional or technological control(s). The public notice will describe the results of the risk assessment conducted in the affected area, any proposed or completed response action, the vertical and horizontal extent and concentrations of existing soil and groundwater contamination in the affected area, and the actual and potential pathways of exposure the controls are intended to address. The notice will describe the purpose of the institutional and technological control(s) being proposed and the predicted period of coverage. The notice will provide the opportunity for members of the public to review department files, make written comments and request a public hearing. The department may schedule a public hearing on the basis of requests from the public and when it determines the particular remedial options proposed for a site warrant public consideration, for example, when issues of whether	105.211(4)	No change to language, but updated location in rule.		Changed location of language within rule to clarify that this public notice is the 2nd public notice required in the LRP process.

		and to what concentrations gross contamination should be allowed to remain within the affected area given the relative effectiveness of institutional controls and other community concerns and development plans. *a.* The notice will be served by certified mail on all property owners that the actual or modeled data indicates are or may be affected by the present or future conditions addressed by the control. The notice will be published in a newspaper of general circulation most likely to reach persons in the immediate locality. *b.* If the controls are intended to restrict surface or subsurface future land use, the notice shall be sent to each local regulatory body having jurisdiction and control over or a direct interest in regulation of these activities. These may include but are not limited to municipal or county zoning boards, municipal building authorities, public utilities and economic development agencies. If the controls are intended to restrict groundwater use, the notice shall be sent to the county or city board of health responsible for private well permitting. *c.* Failure to provide notice to an interested party shall not				

		constitute a basis for invalidating a subsequently approved no further action classification.				
Site Assessment	137.8 (3)'l'(3)	(3) Soil vapors in each area that is most likely to be impacted by known groundwater or soil contamination shall be sampled and analyzed for the volatile organic contaminants of concern. If the area of soil or groundwater contamination exceeds 10,000 square feet, additional soil vapor samples may be required. If vapors may be impacting an existing enclosed space, a soil vapor sample shall be collected from a location that is most likely to have vapor contamination adjacent to the enclosed space.	105.208(3)'l'(3)	(3) Soil vapors in each area that is most likely to be impacted by known groundwater or soil contamination shall be sampled and analyzed for the contaminants of concern. If the area of soil or groundwater contamination exceeds 10,000 square feet, additional soil vapor samples may be required. If vapors may be impacting an existing enclosed space, a soil vapor sample shall be collected from a location that is most likely to have vapor contamination adjacent to the enclosed space.		The words volatile organic were removed to avoid overly specific language. Harmful vapors must be addressed if a risk to human health.
Site Assessment	137.8 (3)'l'(4)	If a water line exists within the zone of known organic contamination of soil, groundwater or soil vapor and the potential for significant diffusion of contaminants into the water line cannot otherwise be dismissed, a sample from the water line shall be collected at the nearest location where any impact may exist and that sample shall be analyzed for the organic contaminants of concern. All such samples should be collected at times following minimum movement within the water line (e.g., early morning following a weekend).	105.208(3)'l'(4)	If a water line exists within the zone of known contamination of soil, groundwater or soil vapor and the potential for significant diffusion of contaminants into the water line cannot otherwise be dismissed, a sample from the water line shall be collected at the nearest location where any impact may exist and that sample shall be analyzed for the contaminants of concern. All such samples should be collected at times following minimum movement within the water line (e.g., early morning following a weekend).		The word organic was removed to avoid overly specific language. Harmful contaminants should be addressed if they pose a risk to human health.

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Risk Evaluation/ Response Action	137.9(4)'b'	Site-specific models may be used to predict future contaminant concentrations at potential points of exposure to contaminants or at other locations used for determining compliance when such models are appropriate, as determined by the department. Site-specific models may include standard models with site-specific input parameters or models utilizing more sophisticated analytical techniques. The department will utilize versions of A Modular Three-Dimension Finite-Difference Ground-Water Flow Model (MODFLOW) as developed by the United States Geological Survey in conjunction with A Modular Three-Dimensional Transport Model (MT3D) by S.S. Papadopulos & Associates, Inc. as a site-specific model for assessment of potential future exposures to contaminants in groundwater. MODFLOW and MT3D will be considered to be appropriate site-specific groundwater and contaminant transport models for any situation. Other site-specific groundwater and contaminant transport models may be utilized with the approval of the department. In general, a site-specific groundwater model shall have proven reliability and be able to simulate, as needed:	105.209(4)'b'	*Site-specific models.* Site-specific models may be used to predict future contaminant concentrations at potential points of exposure to contaminants or at other locations used for determining compliance when such models are appropriate, as determined by the department. Site-specific models may include standard models with site-specific input parameters or models utilizing more sophisticated analytical techniques. A site-specific groundwater model shall have proven reliability and be able to simulate, as needed: ● A fixed contaminant source, ● Groundwater and contaminant flow in three dimensions, ● Groundwater and contaminant flow through as many distinct geologic layers as necessary for the site in question, ● Effects of pumping, ● Effects of groundwater recharge and discharge, ● Impacts of hydrologic boundaries, ● Contaminant advection, dispersion and chemical reactions, as appropriate for the site in question, and ● Other site-specific variables as appropriate.		Removing requirement for using MODFLOW if modeling groundwater flow since models are not generally utilized/accepted in lieu of monitoring groundwater plumes.

		● A fixed contaminant source, ● Groundwater and contaminant flow in three dimensions, ● Groundwater and contaminant flow through as many distinct geologic layers as necessary for the site in question, ● Effects of pumping, ● Effects of groundwater recharge and discharge, ● Impacts of hydrologic boundaries, ● Contaminant advection, dispersion and chemical reactions, as appropriate for the site in question, and ● Other site-specific variables as appropriate.				
Risk Evaluation/ Response Action	137.9(8)	Any permits which will be necessary to implement the response action shall be identified to the department for inclusion in a consolidated standards permit.	105.209(8)	Removed.		Language was removed since this requirement is already outlined in Iowa Code 455H.207.