



Department of Natural Resources

Five-Year Rule Review Worksheet

Phase 2 - Part C

BASIC INFORMATION

Date Part C Review Concluded: April 1, 2015

Reviewer Name(s): Mick Leat, Nina Koger, Mike Smith, Matt Phoenix, Chad Stobbe, Theresa Stiner, Sue Johnson, Amie Davidson

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Chapter¹ Number: 113

Chapter Name: Sanitary Landfills for Municipal Solid Waste: Groundwater Protection Systems for the Disposal of Nonhazardous Wastes

1. DOES THIS CHAPTER² DO THE JOB IT SETS OUT TO DO?

1a. Is this chapter effective at protecting the health, welfare, and safety of Iowans and our natural resources?

Yes

No

(check or circle)

1b. Explain how the chapter protects the health, welfare, and safety of Iowans and our natural resources.

This administrative chapter protects the health, welfare and safety of Iowans by establishing setback distances from sensitive receptors like airports, residences and water wells; implementing composite liners and other design standards that have shown to protect groundwater; and requiring ongoing groundwater monitoring to assess whether municipal solid waste sanitary landfills (MSWLF) are impacting groundwater. It also requires corrective action

¹ If the Phase 1 Worksheet addresses a portion of a chapter, rather than a whole chapter, then this follow-up worksheet should address the same portion of the chapter (e.g., rule or rules, paragraph, etc.).

² Throughout this worksheet, the word "chapter" is meant to apply to the chapter or portion of a chapter to which the worksheet applies.

measure be taken by the owner when a potentially harmful release to groundwater has been identified.

2. IS THERE LEGAL AUTHORITY FOR THIS CHAPTER?

2a. Is the chapter intended to implement any state statutes?

Yes No (check or circle)

If this chapter is intended to implement any state statutes, then answer questions 2b and 2c. If not, then proceed to question 2d.

2b. Provide citations for the specific provisions of the Iowa Code implemented by this chapter.

At the conclusion of this administrative chapter there is a chapter implementation sentence that states, "These rules are intended to implement Iowa Code section 455B.304."

[Iowa Code section 455B.304](#) – 455B.304(1), 455B.304(3) through (8), 455B.304(11), 455B.304(13) and 455B.304(15)

[Iowa Code section 455B.305](#) – 455B.305(1) through (3)

[Iowa Code section 455B.305A](#)

[Iowa Code section 455B.306](#) – 455B.306(7)“a” through “d” and 455B.306(9)

[Iowa Code section 455B.315](#)

[Iowa Code section 455B.381](#) – 455B.381(4), (5) and (9)

[Iowa Code section 455B.387](#)

[Iowa Code section 455D.9](#) – 455D.9(1)

[Iowa Code section 455D.9A](#)

[Iowa Code section 455D.10](#) – 455D.10(1)

[Iowa Code section 455D.11](#) – 455D.11(2)

[Iowa Code section 455D.13](#) – 455D.13(1)

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[Iowa Code section 455E.3](#) – 455E.3(2) and (5)

[Iowa Code section 455E.4](#)

[Iowa Code section 455E.5](#) – 455E.5(1) through (6)

[Iowa Code section 455H.203](#) – 455H.203(2)(b)

[Iowa Code section 455B.172](#) – 455B.172(1), 455B.172(5)(a) and (b), 455B.172(7)(a)

[Iowa Code section 481B](#) – 481B.(2)

[Iowa Code section 263B.2](#) – 263B.2

2c. Provide a narrative summary of how the state statutes are implemented by this chapter.

Given the scope and breadth of the provisions expressed within 567 IAC 113, it was felt that brief bulleted summaries regarding each statutory provision expressed above would be easier to follow and provide greater clarity as to how that statutory provision was being implemented by this administrative chapter. The administrative rule citations below should not be considered inclusive of all that pertain to each statutory provision, but rather examples of how each Iowa Code provision is implemented by this administrative chapter.

Iowa Code section 455B.304(1)

- While there are specific rules within this administrative chapter that have direct statutory authority (e.g., 567 IAC 113.8(5) – emergency response and remedial action plans (ERRAP) and 567 IAC 113.14 – financial assurance), some requirements are based upon the broad authority given under Iowa Code section 455B.304(1) to adopt rules for the proper administration of Division IV “Solid Waste Disposal,” Part 1 “Solid Waste.” Within the examples given in Iowa Code section 455B.304(1) is the authority to establish rules for “the issuance of permits”, “general operations and maintenance” and for the “inspection of sanitary disposal projects” (SDPs).
- 567 IAC 113.4 and 113.5 specify the situations and processes by which the DNR issues, revokes, suspends, modifies, or denies permits for the construction and operation of MSWLFs. 567 IAC 113.4(6) states the situations that warrant DNR inspections and their frequencies.
- 567 IAC 113.6 describes MSWLF location and siting requirements, including the minimum standards for a site investigation report that demonstrates compliance with these requirements.
- 567 IAC 113.7 describes MSWLF engineering design and construction standards.
- 567 IAC 113.8 describes MSWLF operating requirements and requires the operator to screen incoming wastes to ensure that materials prohibited from disposal (e.g., uncontained liquid waste, wet sewer sludge) are not accepted.

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- 567 IAC 113.12 describes the minimum design and construction criteria to close a MSWLF.

Iowa Code section 455B.304(3)

- 567 IAC 113.8(1)“b”(3) establishes a ban on the disposal of uncontained liquids in a MSWLF and 567 IAC 113.8(1)“b”(4) establishes a ban on the disposal of septage (i.e., raw material, liquids and pumpings).

Iowa Code sections 455B.304(4) and (5)

- 567 IAC 113.10 sets forth the minimum standards and sampling frequencies for the MSWLF’s groundwater monitoring well network, and specifies the circumstances that indicate a release has occurred, as well as the appropriate assessment monitoring and corrective action responses.

Iowa Code section 455B.304(6)

- 567 IAC 113.13 specifies the minimum postclosure care requirements including groundwater monitoring frequencies and the length of the postclosure period.

Iowa Code section 455B.304(7)

- 567 IAC 113.9 establishes environmental monitoring and corrective action requirements for air and landfill gas.

Iowa Code section 455B.304(8)

- 567 IAC 113.12 through 113.14 establish the minimum closure, postclosure and financial assurance requirements for MSWLFs.

Iowa Code section 455B.304(11)

- 567 IAC 113.8(6) requires MSWLF operators be trained, tested, and certified by a DNR-approved certification program; and establishes the requirements for MSWLF operator certification.

Iowa Code section 455B.304(13)

- 567 IAC 113.2(4) exempts certain MSWLFs from certain postclosure requirements if they closed prior to October 9, 1994.

Iowa Code section 455B.304(15)

- 567 IAC 113.7(3)“g” requires MSWLFs install a scale certified by the Iowa department of agriculture and land stewardship to calculate payment of the tonnage fee.

Iowa Code section 455B.305(1)

- 567 IAC 113.4 and 113.5 specify the situations and processes by which the DNR issues, revokes, suspends, modifies, or denies permits for the construction and operation of

MSWLFs. 567 IAC 113.4(6) states the situations that warrant DNR inspections and their frequencies

Iowa Code section 455B.305(2)

- 567 IAC 113.4(11) specifies that the DNR may request additional information and consider compliance with related requirements, such as comprehensive planning, in making a permit issuance decision.

Iowa Code section 455B.305(3)

- 567 IAC 113.7(5)“b” requires all MSWLFs to have a leachate collection system and establishes minimum design criteria.

Iowa Code section 455B.305A

- 567 IAC 113.6(1) requires the MSWLF permit applicant to obtain local siting approval prior to the DNR reviewing a permit application.

Iowa Code sections 455B.306(7)“a” through “d”

- 567 IAC 113.12(8) and 113.13(3) require as part of closure and postclosure care, the development of written closure and postclosure care plans. 567 IAC 113.7(5)“b”(14) requires the annual submittal of a Leachate Control System Performance Evaluation (LCSPE) Report to evaluate the effectiveness of the leachate collection system. In addition, 567 IAC 113.14(3)“c”(6)“9” and 113.14(4)“c”(6)“10” though “12” specify financial assurance considerations for the ongoing maintenance of the leachate control system from closure through postclosure. 567 IAC 113.8(5) requires the completion of an emergency response and remedial action plan.

Iowa Code section 455B.306(9)

- 567 IAC 113.14 sets forth the criteria for establishing and maintaining financial assurance for closure, postclosure care and corrective action at MSWLFs.

Iowa Code section 455B.315

- 567 IAC 113.8(1)“b”(6) prohibits MSWLFs from accepting for disposal radioactive waste.

Iowa Code sections 455B.381(4), (5) and (9) & Iowa Code section 455B.387

- 567 IAC 113.8(1)“b”(8) prohibits the disposal of hot loads at MSWLFs, which if allowed would constitute a hazardous condition. Additionally, the prohibitions on open burning and vehicle fueling in 567 IAC 113.8(1)“c” serve to prevent the occurrence of hazardous conditions.
- 567 IAC 113.8(5), which requires MSWLFs maintain an ERRAP, describes how the individual permit holder will address certain hazardous conditions, including regulated and hazardous waste spills and releases.
- 567 IAC 113.9 specifies how hazardous conditions involving the release of landfill gases

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are identified and remedied.

- 567 IAC 113.10(6) through (9) specify how hazardous conditions involving leachate or landfill gas releases to groundwater are identified, assessed and remedied.

Iowa Code section 455D.9(1)

- 567 IAC 113.8(1)“b”(13) implements a disposal prohibition on yard waste at MSWLFs.

Iowa Code section 455D.9A

- 567 IAC 113.8(1)“b”(16) implements a disposal prohibition on baled solid waste at MSWLFs, unless the waste is baled on site after the waste has been visually inspected for prohibited materials.

Iowa Code section 455D.10(1)

- 567 IAC 113.8(1)“b”(14) implements a disposal prohibition on lead acid batteries at MSWLFs.

Iowa Code section 455D.11(2)

- 567 IAC 113.8(1)“b”(12) implements a disposal prohibition on waste tires at MSWLFs, unless each tire is processed into pieces no longer than 18 inches on any side.

Iowa Code section 455D.13(1)

- 567 IAC 113.8(1)“b”(15) implements a disposal prohibition on waste oil at MSWLFs.

Iowa Code sections 455E.3(2) and (5)

- 567 IAC 113.1 reiterates that statutory findings that groundwater is a precious natural resource. It’s essential to the health, welfare, and economic prosperity of all citizens in Iowa that groundwater is protected and that the prevention of groundwater contamination is of paramount importance.

Iowa Code section 455E.4 & Iowa Code sections 455E.5(1) through (6)

- 567 IAC 113.1 restates the statutory groundwater protection goal to prevent groundwater contamination from MSWLF units to the maximum extent practical, and if necessary to restore the groundwater to a potable state, regardless of present condition, use, or characteristics.
- 567 IAC 113.6 and 113.7, through its siting and design requirements for MSWLFs, implements the groundwater protection goal of Iowa Code section 455E.4 and policy in Iowa Code sections 455E.5(1) through (4) by emphasizing prevention of groundwater contamination by MSWLFs.
- The groundwater and surface water monitoring and response requirements specified in 567 IAC 113.10 implement the groundwater protection policies of Iowa Code sections 455E.5(2),(3),(5) and (6).

Iowa Code section 455H.203(2)(b)

- 567 IAC 113.10(6)“h” implements groundwater protection standards for constituents evaluated within the MSWLF monitoring program.

Iowa Code section 455B.172(7)(a)

- 567 IAC 113.10(2) specifies the construction and abandonment criteria for groundwater monitoring wells at MSWLFs.

Iowa Code section 481B.2

- 567 IAC 113.6(2)“g” implements evaluation and protection requirements for threatened or endangered flora and fauna.

Iowa Code section 263B.2

- 567 IAC 113.6(2)“h” implements evaluation and protection requirements for archaeologically, historically, or architecturally significant properties.

2d. Does the chapter implement any **federal statutes or regulations**?

Yes No (check or circle)

If this chapter is intended to implement any federal statutes or regulations, then answer questions 2e and 2f. If not, then proceed to question 3.

2e. Provide citations for the specific provisions of federal statutes and regulations implemented by this chapter.

40 CFR, Part 239 – REQUIREMENTS FOR STATE PERMIT PROGRAM DETERMINATION OF ADEQUACY, establishes the criteria that a state must meet to determine the adequacy of the state’s Subtitle D permit program.

40 CFR, Part 258 – CRITERIA FOR MUNICIPAL SOLID WASTE LANDFILLS, establishes minimum national standards under RCRA for all municipal solid waste landfills.

2f. Provide a summary of how federal statutes and regulations are implemented by this chapter.

The intent of 567 IAC 113 was to implement state statutes and Federal Subtitle D regulations. In several portions of 567 IAC 113, especially regarding groundwater monitoring and remediation, the federal statute was adopted verbatim. Iowa was required to go through a review process with the United States Environmental Protection Agency (EPA) in order to be authorized to implement RCRA Subtitle D.

40 CFR, Part 239, Subpart C establishes public review and comment requirements and other minimum general requirements for a state RCRA Subtitle D permit program. These regulations are implemented by 567 IAC 113.4(12) which lists the types of projects that require public notice and the method by which public participation is fostered.

40 CFR, Part 258, Subpart A – General establishes solid waste definitions research, development, and demonstration permits, which are expressed in 567 IAC 113.3 and 113.4(10) respectively.

40 CFR, Part 258, Subpart B - Location restrictions, were adopted nearly verbatim in 567 IAC 113.6(2)“a” through “f” and 567 IAC 113.2(8)“a”. These rules require sanitary landfills to demonstrate compliance with the location restrictions listed in Subpart B. The site exploration and characterization report described in 567 IAC 113.6(4) documents compliance.

40 CFR, Part 258, Subpart C - Operating Criteria requires:

- 40 CFR, Part 258.20. Sanitary landfills must screen incoming wastes to detect and prevent the disposal of regulated hazardous wastes and PCB wastes. These procedures are specified in 567 IAC 113.8(1)“a” and “b”.
- 40 CFR, Part 258.21. Federal regulations regarding daily cover (including alternative cover material) standards were incorporated into 567 IAC 113.8(2)“f”.
- 40 CFR, Part 258.22. Federal regulations regarding disease vector control requirements were incorporated into 567 IAC 113.8(3)“e”.
- 40 CFR, Part 258.23 and 258.24. Federal regulations regarding explosive gas control requirements, general air quality criteria and open burning bans, were incorporated into 567 IAC 113.9.
- 40 CFR, Part 258.25. Federal regulations regarding public access control and illegal dumping requirements were incorporated into 567 IAC 113.8(3)“a”.
- 40 CFR, Part 258.26. Federal regulations regarding run-on and runoff control system requirements were incorporated verbatim into 567 IAC 113.7(8).
- 40 CFR, Part 258.27. Federal regulation regarding surface water monitoring were incorporated verbatim into 567 IAC 113.10(1)“a”.
- 40 CFR, Part 258.28. Federal regulations regarding the prohibition on bulk or non-containerized liquid waste disposal were incorporated verbatim into 567 IAC 113.8(1)“b”(3).
- 40 CFR, Part 258.29. Federal recordkeeping regulations were incorporated into 567 IAC 113.11.

40 CFR, Part 258, Subpart D - Design Criteria, which specifies the minimum liner requirements, was adopted verbatim in 567 IAC 113.7(5)“a”. This subpart also requires that the relevant point of compliance for groundwater monitoring purposes, be established based upon eight factors,

the first of which is described as “the hydrogeological characteristics of the facility and surrounding land”. The federal design criteria do not describe how these characteristics are determined and documented. 567 IAC 113.6(3) titled, “Soil and hydrogeologic investigations”, establishes the minimum sample collection, testing and related data requirements for conducting the hydrogeological investigation. 567 IAC 113.6(4) specifies how this data is to be reported.

40 CFR, Part 258, Subpart E - Groundwater Monitoring and Corrective Action regulations have been incorporated into 567 IAC 113.10. Because of the complexity of this administrative chapter, this summary is broken into the following sections:

40 CFR, Part 258.50 Applicability (a-h). Federal regulations regarding length of time required for environmental monitoring were incorporated verbatim into 567 IAC 113.10(1)“c”; federal regulations regarding groundwater scientist qualifications was incorporated verbatim into 567 IAC 113.10(1)“d”, and federal regulations regarding the establishment of alternative schedules was incorporated verbatim into 567 IAC 113.10(1)“e”.

40 CFR, Part 258.51 Ground-water monitoring systems (a-d). Federal regulations specifying groundwater monitoring system location and construction requirements were adopted nearly verbatim in 567 IAC 113.10(2)“a”(1) and (2), 567 IAC 113.10(2)“b” and 567 IAC 113.10(2)“c” respectively.

Part (d) requires the monitoring network be based upon a thorough site-specific characterization of the aquifer, groundwater flow paths and site geology. These requirements form the basis for the soil and hydrogeologic investigation expressed in 567 IAC 113.6(3), and were incorporated nearly verbatim into 567 IAC 113.10(2)“e”.

40 CFR, Part 258.53 Ground-water sampling and analysis requirements. Federal regulations regarding groundwater sampling and analysis were incorporated nearly verbatim into 567 IAC 113.10(4).

40 CFR, Part 258.54 Detection monitoring program. Federal regulations regarding detection monitoring were incorporated nearly verbatim into 567 IAC 113.10(5), except that five independent sampling events are required to develop background concentrations instead of four. (Note – U.S. Environmental Protection Agency’s (EPA) Unified Guidance on statistical analysis of groundwater monitoring data at RCRA facilities recommends eight sampling events.)

40 CFR, Part 258.55 Assessment monitoring program. Federal regulations regarding assessment monitoring were incorporated nearly verbatim into 567 IAC 113.10(6), and in accordance with 40 CFR, Part 258.55(i), statewide standards were adopted in 567 IAC 113.10(6)“i” as an alternative groundwater protection standard.

40 CFR, Part 258.56 Assessment of corrective measures. Federal regulations regarding the assessment of corrective measures were incorporated verbatim into 567 IAC 113.10(7). The requirement for a public meeting was expanded upon in 567 IAC 113.10(7)“d” to include delivery of the public meeting notice and placement of meeting minutes in the operating record.

40 CFR, Part 258.57 Selection of remedy. Federal regulations regarding the selection of remedy were incorporated nearly verbatim into 567 IAC 113.10(8).

40 CFR, Part 258.58 Implementation of the corrective action program. Federal regulations regarding the implementation of the corrective action program were incorporated verbatim into 567 IAC 113.10(9).

40 CFR, Part 258, Subpart F – Closure and Postclosure Care regulations have been incorporated nearly verbatim into 567 IAC 113.12 (40 CFR 258.60) and 113.13 (40 CFR 258.61) respectively. Modifications were made in the state final cover design standard to adapt the federal regulations to the specific soil types and climate in Iowa, as well as to incorporate past practices that have become industry standards (e.g., 24” vegetative layer thickness, 5 percent minimum and 25 percent maximum slopes).

40 CFR, Part 258, Subpart G - Financial Assurance Criteria were incorporated nearly verbatim into 567 IAC 113.14.

10 CFR, Part 61 – Licensing Requirements for Land Disposal of Radioactive Wastes describes the requirements for disposal of all classes of radioactive waste. As no such facilities have been licensed in Iowa, 567 IAC 113.8(1)“b”(6) implements the federal prohibition on land disposal of radioactive wastes.

3. DOES THE CHAPTER GO BEYOND FEDERAL LEGAL REQUIREMENTS?

3a. Is this chapter more stringent than federal statutory or regulatory requirements?

Yes No Not Applicable (check or circle)

If the answer is “yes,” then answer question 3b. If not, then proceed to question 4.

3b. Provide a narrative statement regarding how this chapter is more stringent than required by federal statutes and regulations, and a short justification of why it is more stringent.

567 IAC 113 contains some variation and addresses necessary areas of regulation not specifically addressed within the federal requirements. The determination of whether these provisions are more restrictive than the federal requirements will vary, depending upon site specific factors, and may be subjective depending upon the perspective of the reviewer. To aid

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in the review, the responses have been broken out into two categories: 1) those provisions that are more stringent (e.g., Iowa Code requirement), and 2) those provisions not perceived by the DNR as being more stringent (e.g., not more stringent if they merely describe the “manner” to be used to comply with the federal regulation).

More Stringent

- 40 CFR, Part 258.29 requires that the operator notify the DNR whenever documents are placed in the operating record, and further requires that the actual document be furnished upon request or be made available for inspection. However 567 IAC 113 requires the submission of the actual documents in lieu of the submission of written notification and additional submission upon request.
- 567 IAC 113.6(1) requires MSWLFs to have local siting approval, which is not a requirement of 40 CFR, Part 258. However, it is required in Iowa Code 455B.305A.
- 567 IAC 113.6(2)“i” specifies a 5 foot separation of waste from groundwater that is not a requirements of 40 CFR, Part 258. The DNR asserts that such separation is necessary for the protection of groundwater pursuant to the goals and policies of the Groundwater Protection Act as stated in Iowa Code sections 455E.3 through 455E.5.
- 567 IAC 113.6(2)“j” specifies a 1,000 foot setback for water supply wells that is not a requirement of 40 CFR, Part 258. The solid waste rule is a restatement of the separation distance established for wells at 567 IAC 43.3(7) and 567 IAC 49.6(1) (Iowa Code section 455B.173). This provision makes those separation distances reciprocal.
- 567 IAC 113.6(2)“l” specifies a setback distance from housing and sensitive populations that is not a requirement of 40 CFR, Part 258.
- 567 IAC 113.7(6) specifies the components of a quality control and assurance (QC&A) program to ensure MSWLFs are constructed in accordance with the DNR-approved plans and specifications. 40 CFR, Part 258.40 and 258.50 specify the minimum performance standards for design and construction, but do not require the implementation of a QC&A program to verify compliance. Iowa’s QC&A program requires that a professional engineer be designated to oversee and document compliance with MSWLF design and construction specifications, so that landfill systems continue to function as intended. An improperly constructed disposal cell may result in future construction expenses to correct problems that could have been avoided.
- 567 IAC 113.8(1)“b” lists specific materials that are prohibited from disposal. The following materials (subparagraph in parentheses) are not expressly prohibited by 40 CFR, 258: PCBs (2), septage (4), appliances (5), radioactive waste (6), infectious waste (7), hot loads (8), asbestos-containing material waste (9), petroleum contaminated soil (10), grit and bar screenings (11), waste tires (12), yard waste (13), lead-acid batteries (14), waste oil (15) and baled waste (16). While many of these materials are not expressly prohibited from disposal by 40 CFR, Part 258, most are specifically prohibited from land disposal in Iowa Code. It should be noted that 567 IAC 113.8(1)“b”(2) restricts

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disposal of all wastes with polychlorinated biphenyl (PCB) equal to or greater than 50 parts per million (40 CFR, Part 761). However, recent federal regulation (i.e., February 29, 2012 reinterpretation of 40 CFR, Part 761.3) now allows bulk product PCB waste exceeding 50 ppm to be disposed of in a RCRA Subtitle D compliant landfill. Although federal regulations (i.e., 40 CFR, Part 761.60(ii)) allow for the disposal of small PCB capacitors in sanitary landfills, Iowa administrative code does not.

- 567 IAC 113.8(1)“d” and “e”, which prohibit scavenging, regulates salvaging, and regulates animal feeding and grazing at MSWLFs, are not addressed within 40 CFR, Part 258. These requirements have been included within 567 IAC 113.8(1) for safety of landfill personnel and to maintain the integrity of the landfill cap through post closure and final end use.
- 567 IAC 113.8(2), which includes requirements for surveying, first lift of waste, fill sequencing, working face, leachate seeps, leachate recirculation, and differential settlement, are not addressed within 40 CFR, Part 258. While some of this rule’s requirements related to landfill cover material are addressed in 40 CFR, Part 258.21, the majority of these operational considerations are not addressed in the federal regulations. Each requirement is either not addressed by the federal regulations or provides a method to achieve the objectives of the federal regulations.
- 567 IAC 113.8(3) regulating scales and weights, all weather access, material storage, litter control, dust, mud tracking, and maintenance of the leachate collection system are not present in federal law. This rule establishes additional basic requirements for proper landfill management and incorporates the federal regulations in regard to access control (40 CFR, Part 258.25) and vector control (40 CFR, Part 258.22). An on-site scale is required by Iowa Code section 455B.304(15) to be certified annually by the Iowa department of agriculture and land stewardship.
- 567 IAC 113.8(4) requires maintenance of a development and operations plan (DOPs), which is not required in 40 CRR, Part 258, with the exception of the waste screening inspection documentation required in 40 CFR, Part 258.29(a)(2). The DOPs documents how the MSWLF will implement general and unique operating procedures at the site to protect human health and the environment.
- 567 IAC 113.8(5) requires an emergency response and remedial action plan be maintained to identify possible occurrences that may endanger human health and the environment. While this plan is not required by 40 CFR, Part 258, it is required by Iowa Code section 455B.306(7)“d” for all sanitary disposal projects.
- 567 IAC 113.8(6) requires all MSWLFs have a trained, tested and certified operator on duty during all hours of operations of the landfill. While this operator certification is not required in 40 CFR, Part 258, it is required by Iowa Code section 455B.304(11).
- 567 IAC 113.10(2)“a”(3) and(4) require an underdrain monitoring network that provides a high level of certainty and prompt detection of contamination, as well as requirements

for theoretical release evaluation; neither of which is required in 40 CFR, Part 258. The groundwater underdrain is the most likely migration pathway that can be monitored, and thus was included within Iowa's groundwater detection program.

- 567 IAC 113.10(2)“d” specifies the requirements for decommissioning groundwater monitoring wells that are no longer functional. The documentation required meets the minimum information necessary to meet the notification requirement of 40 CFR, Part 258.51(c)(1). The process and additional documentation outlined in 567 IAC 113.10(2)“d” to decommission groundwater monitoring wells was adopted to comply with Iowa Code section 455B.190.
- 567 IAC 113.10(2)“e” establishes specific minimum monitoring well spacing requirements (i.e., 300 feet) that are not expressed within federal regulation. This may be considered more stringent in that 40 CFR, Part 258.51(d)(1) requires the monitoring well spacing be based upon site specific information. 40 CFR, Part 258.51(a)(2) requires the spacing be sufficient to ensure detection of groundwater contamination.
- 567 IAC 113.10(3) establishes standards for a surface water monitoring program that are not present in 40 CFR, Part 258. In the event that leachate migration or landfill operations are impacting a surface water of the state, this rule is designed to allow for the assessment of those impacts and the imposition of such requirements as are necessary to protect surface waters of the state. Because it is not expressed with the federal regulations, this could be considered more stringent.
- 567 IAC 113.10(4)“a” requires MSWLFs use a laboratory certified by the DNR to analyze groundwater monitoring samples, which is not expressed within 40 CFR, Part 258. This requirement is necessary to ensure the quality of the data received. The DNR's laboratory certification program is outlined in 567 IAC 83. Specifically, 567 IAC 83.1(1) states that a laboratory certification program is required for laboratories performing analyses of samples which are required to be submitted to the DNR as a result of Iowa Code (i.e., §45B.115) provision, rules, operation permits, or administrative orders. 567 IAC 83.1(3)“d” states that the requirements of 567 IAC 83 also apply to all laboratories conducting analyses of solid waste parameters pursuant to 567 IAC 100 through 130.
- 567 IAC 113.10(9)“f” requires DNR approval of the certification of completion of the selected corrective action remedy. The federal regulation (i.e., 40 CFR, Part 258.58(3)(f)) requires certification of completion of the remedy to be signed by the owner or operator and by a qualified groundwater scientist or approved by the Director of an approved State. Iowa's administrative provision requires DNR approval of the certification of completion. Such approval is necessary to ensure that the contamination has been fully addressed.
- 567 IAC 113.10(10) requires the submittal of an annual water quality report (AWQR) to the DNR that details the water quality monitoring sampling locations and results. Per 40 CFR, Part 258.29(a)(5), any demonstration, certification, finding, monitoring, testing or analytical data required by Subpart E (Ground-Water Monitoring and Corrective

Action) is to be maintained in the facility operating record. Although not required by 40 CFR, Part 258, an AWQR including a site map showing water quality monitoring sampling locations and plumes of contamination, and a narrative explaining and interpreting all of the data collected during the previous year, are necessary to demonstrate compliance with applicable state (Iowa Code section 455B.304(4) and (5)) and federal (40 CFR, Part 258, Subpart E) monitoring performance requirements.

- 567 IAC 113.12(1)“c” requires a minimum 24 inch-thick erosion layer capable sustaining native plant growth, where 40 CFR, Part 258.60(a)(3) requires this layer to have a minimum thickness of 6 inches. Adequate vegetative cover is essential to prevent erosion and infiltration of surface waters. The DNR asserts that a 24–inch erosion layer is necessary to provide an adequate final vegetative cover for these sites. While Iowa regulations do not stipulate what native plant growth is to be used, bromegrass is the typical vegetation chosen for final cover at MSWLFs in Iowa. Bromegrass requires up to a 24-inch layer of soil depth for proper rooting.
- 567 IAC 113.12(1)“e” requires the final cover system to have a slope between 5 percent and 25 percent, where there are no slope standards specified in 40 CFR, Part 258.60. The DNR asserts that these slope parameters are necessary to balance the need to prevent erosion with the need to minimize infiltration. Steeper slopes are allowed if the permit holder can demonstrate that the final cover system integrity is unlikely to be adversely affected.
- 567 IAC 113.12(5) requires MSWLFs no longer accepting waste for final disposal, to notify all local governments utilizing the facility and to post a public notice stating their intent to close at least 180 days prior, which is not required by federal regulation. 40 CFR, Part 258.60(e) only stipulates that prior to closure, MSWLFs are to notify the State Director that a notice of the intent to close has been placed in the operating record. As cities and counties are required to provide waste management services to their citizens in accordance with Iowa Code section 455B.302, this notification provision is essential to convey alternate waste management options.

Not Perceived By The DNR As More Stringent

- 567 IAC 113.7(5)“a”(2)“2” specifies the point of compliance for an alternative liner system. The MSWLF liner, pursuant to state (i.e., 567 IAC 113.7(5)“a”(2)1) and federal regulations (i.e., 40 CFR, Part 258.40(a)(1)), must be designed to ensure that contaminants escaping the MSWLF do not exceed the specified concentration levels for parameters sampled at an established “point of compliance.” This rule establishes the point of compliance within 50 feet of the waste boundary or planned liner, unless site conditions dictate otherwise. 40 CFR, Part 258.40(d) establishes the criteria states’ must consider in determining the relevant point of compliance, and 40 CFR, Part 258.51(a) further establishes criteria for the placement of groundwater monitoring systems.

Based upon the known soil types and hydrology of this state, the DNR believes that a groundwater monitoring system must be within 50 feet of the waste boundary in order

to ensure that contamination can be discovered and addressed in a timely manner. If specific site conditions warrant an alternative distance, the rule allows for consideration of those conditions.

- 567 IAC 113.7(7) specifies the design requirements of a vertical and horizontal expansions of MSWLF units. This rule is necessary to ensure the integrity and stability of the liner and establishes the minimum requirements to meet federal design performance standards in 40 CFR, Part 258.40 and 258.51. This rule is not more stringent than federal requirements, but rather establishes the minimum requirements to meet federal design criteria.
- While the issuance of MSWLF operating permits in 567 IAC 113.4 and 113.15 may not be specified in 40 CFR, Part 258, Iowa's sanitary disposal project permitting system is the means by which MSWLF owners/operators demonstrate compliance with the federal design and operating requirements; therefore it is not considered more stringent than federal regulation.
- 567 IAC 113.6(2)"k" specifies a property line setback of 50 feet that is not a requirement of 40 CFR, Part 258. However, 40 CFR, Part 258.40 requires that the point of compliance and groundwater monitoring systems be located on property owned by the sanitary landfill. The 50-foot setback is necessary to allow for the placement of monitoring wells, and the DNR also believes that this setback is necessary to prevent the deposition of wind-blown litter on neighboring properties and to allow vehicle access around all waste boundaries.
- 567 IAC 113.6(3) and (4) specify a soil and hydrogeologic investigation and site exploration and characterization report that implement the requirements of 40 CFR, Parts 258.51. 567 IAC 113.6(3) describes the minimum components for the site-specific aquifer and stratigraphic characterization required in 40 CFR, Part 258.51(d), and the site-specific aquifer and stratigraphic characterization required in 40 CFR, Part 258.40(d)(1) to determine the point of compliance; therefore this requirement is not more stringent than federal law, but rather establishes the minimum requirements to meet federal law.
- 567 IAC 113.6(4) requires the development of a site exploration and characterization report. 40 CFR, Part 258, Subpart B requires MSWLFs demonstrate compliance with the applicable location restrictions. Site exploration report preparation and maintenance is not more stringent than the federal requirements because it specifies how MSWLFs document compliance with said federal requirements.
- 567 IAC 113.7(1) requires a predesign meeting, (2) plans and specifications, (3) general site design and construction requirements, and (4) MSWLF unit subgrade. These provisions are not a part of federal design requirements; however, these requirements are necessary to ensure the integrity and stability of the liner design pursuant to 40 CFR, Part 258.40.

- 567 IAC 113.7(5)“a” specifies that liner be constructed in 8-inch lifts of compacted soil. The federal rule does not specify how the liner is constructed. Federal guidance recommends the soil to be compacted in 6–inch lifts. The Iowa rule is less restrictive than federal guidance, but in compliance with the federal rule.
- 567 IAC 113.9(2) requires MSWLFs implement a landfill gas monitoring program. The requirement to perform routine methane monitoring is warranted due to the danger to human health presented by subsurface migration of explosive gas. The requirements for landfill gas monitoring found in 567 IAC 113.9(2) are consistent with federal guidance and are necessary methods to comply with 40 CFR, Part 258.23. While there are certain requirements within 567 IAC 113.9(2) that are not expressed within 40 CFR, Part 258 (e.g., gas probes), the U.S. EPA recommends their use and therefore should not be considered more stringent.
- 567 IAC 113.10(2)“c” specifies the groundwater monitoring well construction requirements. A properly constructed monitoring well is needed to yield groundwater samples representative of the uppermost aquifer. While 40 CFR, Part 258.51 sets forth the requirements of a groundwater monitoring system, it does not stipulate the groundwater monitoring well construction standards. Therefore, the inclusion of these construction standards within 567 IAC 113 should not be considered more stringent, as it provides guidance in how to achieve the objectives of the cited federal regulation.
- 567 IAC 113.10(2)“e” requires MSWLFs develop a hydrologic monitoring system plan (HMSP) that addresses the number, spacing, and depth of groundwater monitoring points in relation to the soil and hydrogeologic investigation pursuant to 567 IAC 113.6(3) and the site exploration and characterization report pursuant to 567 IAC 113.6(4). While 40 CFR, Part 258.51 sets forth the requirements of a groundwater monitoring system, it does not require a HMSP be maintained. Therefore, the inclusion of this plan within 567 IAC 113 should not be considered more stringent, as it provides guidance on how to achieve the objectives of the cited federal regulation.
- 567 IAC 113.10(2)“f” requires the preparation and implementation of a plan designed to ensure the ongoing reliability of the groundwater monitoring system. 567 IAC 113.10(2)“f” establishes the requirements for demonstrating that the site monitoring wells are maintained and continue to perform as intended. The criteria in this rule are considered the minimum standards necessary to achieve the general performance standards expressed in 40 CFR, Part 258.51(c)(2), and is therefore not considered more stringent than federal law. Such a plan is necessary to ensure that the existing monitoring system continues to function adequately to protect groundwater.
- 567 IAC 113.10(4)“i”(2) requires that a determination of whether there has been a statistically significant increase (SSI) over background be made within a 45 days of sampling and analysis. 40 CFR, Part 258.53(i)(2) states that the determination of whether there has been an SSI over background must be made within “a reasonable period of time.” Forty-five days is a reasonable period of time in which to review the

results of the sampling analysis; therefore, this time period is not considered by the DNR to be more restrictive than the federal regulation.

- 567 IAC 113.12(1)“a” establishes the minimum permeability design standards for final cover systems at MSWLFs. 40 CFR, Part 258.60(a)(1) states that final cover must “have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than 1×10^{-5} cm/sec, whichever is less”. The 1×10^{-5} cm/sec standard was replaced in 567 IAC 113.12(1)“a” with a requirement of 1×10^{-7} cm/sec, while retaining other language to be consistent with the bottom liner requirements of 40 CFR, Part 258.40(b). While this was likely to be more restrictive than federal rules when 567 IAC 113 was promulgated, since landfilling in unlined units was commonplace at that time, disposal operations have significantly changed since and all MSWLFs are operating on a liner. This makes the need to list a permeability standard immaterial since the first portion of this rule (specifying permeability equal to the liner) remains applicable. Therefore, this provision is not considered to be more stringent than federal regulation.

4. DOES THIS CHAPTER HAVE UNINTENDED CONSEQUENCES?

4a. Does the chapter result in the equitable treatment of those required to comply with it?

Yes No (check or circle)

4b. Provide a narrative summary of your response.

For any public or private entity deemed to require a SDP permit for their municipal solid waste disposal activities, the provisions of this administrative chapter are applied equally to all. The requirements of this administrative chapter are based firmly upon federal Resource Conservation and Recovery Act (RCRA) Subtitle D regulations (i.e., 40 CFR, Part 258).

4c. Does the chapter result in the inequitable treatment of anyone affected by the chapter but not required to comply with it?

Yes No (check or circle)

4d. Provide a narrative summary of your response.

All municipal solid waste in the state is disposed of in accordance with these regulations; therefore all municipal solid waste generators are treated equally. Only waste exported from the state is unaffected by these regulations, which is disposed of in neighboring states under the same federal RCRA Subtitle D regulations. Due to the adoption of these federal regulations nationwide, all MSWLFs are designed and operated in accordance with the same minimum standards; therefore there is no known inequitable treatment of any party.

4e. Are there known negative unintended consequences of this chapter?

Yes No (check or circle)

If the answer is "yes," then answer question 4f. If not, then proceed to question 5.

4f. Specifically state the nature of any negative unintended consequences.

For those constituents for which a maximum contaminant level has not been set by EPA, 567 IAC 113.10(6)"i" allows the DNR to utilize the statewide standards established pursuant to 567 IAC 137. Because of the way the statewide standards are established there are some constituents for which the standard is lower than the levels that the laboratories can reliably measure. This then requires sites to utilize the background levels which are more often than not non-detect resulting in more stringent clean-up levels.

The requirement in 567 IAC 113.10(6)"g"(1) to complete plume delineation within 90 days has been difficult for permit holders to meet due to the amount of preparation work required and the fact that a complete delineation generally requires multiple rounds of field work. As a result, many permit holders have been out of compliance with this rule.

567 IAC 113.14(8)"h" includes a definition of remaining permitted capacity that is difficult to apply as permit holders have not only areas currently constructed where waste placement is occurring, but also areas permitted where future expansions is intended to occur. Additionally, remaining permitted capacity is difficult to determine when annual topographic surveys are not performed at sites. Because of the uncertainty with remaining permitted capacity, the financial assurance payment calculation in 567 IAC 113.14(8)"h" may not result in the appropriate value.

5. CAN THE GOALS OF THE CHAPTER BE ACHIEVED IN A MORE EFFICIENT OR STREAMLINED MANNER?

5a. Is the chapter broader than necessary to accomplish its purpose or objective?

Yes No (check or circle)

5b. Provide a narrative summary of your response.

This administrative chapter only applies to MSWLFs and includes provisions required by the federal RCRA Subtitle D, plus clarifications necessary for Iowa geology and other provisions (e.g., operator certification, ERRAP, financial assurance) required by Iowa Code. This administrative chapter is not broader than necessary to accomplish its purpose.

5c. Is the purpose of this chapter achieved in the least restrictive manner?

Yes No (check or circle)

5d. Provide a narrative summary of your response.

This administrative chapter is an Iowa-specific implementation of the federal RCRA Subtitle D requirements and provisions required by Iowa Code. Pursuant to 40 CFR, Part 239, the U.S. EPA

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has made an adequacy determination and found 567 IAC 113 to be in compliance with 40 CFR, Part 258. Each of this administrative chapter's provisions is necessary to address Iowa unique geology, or specific requirements in Subtitle D or Iowa Code. However, some items could be made less restrictive and performance based standards included instead of or in addition to the prescriptive standards, such as:

- The monitoring well construction specifications could be made less prescriptive and more flexible to allow for variance from the requirements when site specific conditions warrant.
- Facility lifetime permits would be less restrictive than the current requirement of five years. The permit holder would not be required to prepare the documents and go through the permit renewal process routinely which would save them time and money. This approach may not be as protective as the current method of determining compliance at each permit renewal; however an alternate method for demonstrating compliance with regulations at MSWLFs could be developed.
- The financial assurance requirements in 567 IAC 113 require permit holders to have a cash account for closure and postclosure costs. This is not included in the federal code. To revise this requirement would take legislative changes at the state level.
- The fate and transport modeling demonstration for alternative liners could be revised to instead allow the use of simpler calculations showing that the gas and liquid movement through the liner system is equivalent to or more protective than the prescribed liner.

5e. What, if any, reasonable and practical alternatives to this chapter are available by the agency?

Iowa could adopt the federal RCRA Subtitle D regulations verbatim; however, specific Iowa Code requirements (e.g., closure and postclosure accounts, 5 year permits) would necessitate some additions to the federal regulations. In addition, this administrative chapter could be clarified by specifying compliance requirements and being more prescriptive to remove uncertainty (e.g., QC&A program is based upon statistically significant sampling techniques; however it is unclear in what's required to comply). Given mandated compliance with federal RCRA Subtitle D standards, there are clear limitations upon the flexibility the state has to make significant changes.

5f. How do the economic and social costs of various alternatives to this chapter, if known, appear to compare to the known economic costs of this chapter?

Given this administrative chapter is an Iowa-specific implementation of the federal RCRA Subtitle D regulations, and includes certain Iowa statutory provisions (e.g., closure and postclosure accounts, 5 year permits) that must remain in any proposed revision (unless rescinded from statute), there is no apparent significant difference in economic costs between this administrative chapter and any alternative.

5g. Do the known economic costs of the chapter outweigh the known economic and social benefits?

No, the costs associated with installation of a modern RCRA Subtitle D liner system and site monitoring are outweighed by the benefits derived from protection of Iowa's groundwater.

6. DOES THE CHAPTER AFFECT BUSINESS OR INDUSTRY?

6a. Does the chapter affect businesses operating in Iowa?

Yes No (check or circle)

If the answer is "yes," then answer questions 6b through 6i as applicable. If not, then proceed to question 6f.

6b. What kinds of businesses are affected by this chapter?

MSWLFs and any public or private entity within Iowa that generates municipal solid wastes that are not recycled would be affected at some level by the requirements of this administrative chapter.

6c. Does this chapter create a burden for businesses?

Yes No (check or circle)

6d. Explain your response to question 6c.

The provisions of this administrative chapter ensure the safe management and disposal of solid waste. The actual costs borne by businesses are in large part determined by the local agencies operating the MSWLF, and can vary greatly across the state.

If the answer to question 6c is "yes," then answer question 6e. If not, then proceed to questions 6f through 6i.

6e. If this rule does create a burden for businesses, what options are available to address those burdens?

Given the design and operational standards for MSWLFs are specified by federal regulation and state statute, many of these costs are fixed. However, the DNR offers several programs that provide businesses with grant money and technical assistance to facilitate waste reduction, and programs that help facilitate beneficial reuse of waste by-products. These assistance programs can greatly reduce businesses' waste management and disposal costs.

6f. Do industry standards affect the subject matter of this chapter?

Yes No (check or circle)

If the answer is "yes," answer questions 6g through 6i as applicable. If not, proceed to question 7.

6g. Have industry standards changed since the adoption of this chapter?

Yes No (check or circle)

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If the answer is “yes,” answer questions 6h and 6i. If not, proceed to question 7.

6h. What industry standards have changed since the adoption of this chapter?

Since the federal regulations were promulgated, which 113 is written in regards to, there has been an increased interest in changing the mindset regarding landfilling. Rather than pursuing the current “dry tomb” approach in which all efforts are made to minimize infiltration of liquids into the waste in an effort to minimize leachate production, there has been a shift towards trying to stabilize the waste rather than preserve it. Waste stabilization is accomplished through addition of liquids. Many rules in 567 IAC 113 were written with the dry tomb approach and as such could be revised to allow flexibility for those facilities who wish to pursue waste stabilization. 567 IAC 112.7 requires the closure activities (e.g., capping) be completed within 180 days of closure. Extending this time period before an impermeable cap is placed would allow more time for liquids to enter the waste mass and result in faster degradation and stabilization of the waste.

On a national level, landfill operator certification has focused more on the managerial level. 567 IAC 113.8(6) includes requirements for landfill operator certification which could perhaps be expanded to also include a level for landfill manager or revised to also include additional topics that apply to landfill managers.

When the 40 CFR Part 258 was promulgated monitoring and environmental protection was geared towards designing and monitoring in regards to groundwater impacts from leachate releases. Gas releases from the landfill also have the ability to contaminate groundwater. As such, there are areas of the rule that could be revised to indicate that threats to the environment can be realized with the release of both leachate and gas.

The approved statistical methods listed in 567 IAC 113.10(4)“g” have been augmented by improved statistical procedures that are referenced in a 2009 U.S. EPA guidance document titled, “Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities.” The statistical procedures, methodologies and applications listed in this guidance document improve the ability of MSWLFs to detect groundwater contamination, and are commonly used by permit holders to analyze the collected data. This guidance document could be listed in 567 IAC 113 to provide greater clarity to the statistical evaluation process for permit holders and the DNR, which would lead to quicker data analysis and an improved ability to determine the appropriate responses to identified contamination.

Monitoring well construction industry standards have been revised to prefer a submerged well screen, rather than the water table bisecting the well screen, as the current regulations (i.e., 567 IAC 113.10(2)“c”(6)) require. In addition, the specifications in 567 IAC 113.10(2)“c”(7) regarding how the filter pack is sized is outdated and difficult to comply with given the time needed to perform the sieve analysis, determine the 50% grain size of the screened interval, and then order the appropriately-sized filter pack.

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Within the sanitary landfill industry, there has been increased use of technology and best management practices to better utilize sanitary landfill capacity. One of the newer ideas is to change the method of filling to a larger working face to increase compaction by more efficient and complete utilization of the capacity of compactors and improve safety. 567 IAC 113.8(2)“d”(1) references the size of the working face, which should be removed from the chapter as there is no evident environmental reason for the requirement.

Iowa Code has placed a prohibition on the disposal of radioactive waste regardless of the level. Recently due to the increased production of natural gas in the United States, a lot of radioactive waste is being produced and as such radioactive waste regulations are being evaluated in many states. There are many items used day to day that are radioactive and per a strict reading of administrative rule and statutory code not allowed to be disposed of in Iowa landfills. As this matter is being evaluated on a national level to determine what level of radioactivity is considered “safe” for disposal, it may be an opportunity for the state to participate in the development of a consistent approach to disposal of radioactive wastes. This would require not only an administrative rule change, but also a legislative change.

6i. Would revision of the chapter be useful in implementing the purposes of the chapter in light of any industry standard revisions? (Cite the portions of the chapter that could be revised.)

There are several provisions within this administrative chapter that should be revisited given recent changes industry standards as described above, such as:

- 567 IAC 113.10(2)“c” regarding well construction standards
- 567 IAC 113.10(4)“h” regarding U.S. EPA’s 2009 statistical guidance
- 567 IAC 113.10(7)“b” should be expanded to ensure that through monitoring of landfill gas, that any design and construction considerations implemented to control migrating landfill gases are working as envisioned. 567 IAC 113 tends to focus on the monitoring plan for groundwater when we may need to place additional gas probes to determine if we have controlled the source of the landfill gas or not.

7. DOES THIS CHAPTER AFFECT JOB CREATION?

7a. Does the chapter affect job creation?

Yes No (check or circle)

If the answer is “yes,” then answer questions 7b and 7c. If not, then proceed to question 8.

7b. If this chapter affects job creation, in what manner does that occur?

Not Applicable

7c. If this chapter is required by state or federal statutes, or federal regulations, how has the

department minimized negative job impacts?

Not Applicable

8. IS THERE ANY DOCUMENTATION OR PAPERWORK REQUIRED BY THIS CHAPTER?

8a. Is there any documentation or paperwork required by this chapter?

Yes No (check or circle)

If documentation or paperwork is required, then answer questions 8b through 8e. If not, then proceed to question 9.

8b. What is the purpose of the documentation or paperwork?

The rules within this administrative chapter that require the submittal of paperwork pertain to minimum SDP permit application requirements and subsequent permitting actions (e.g., DOPs, tonnage reporting, certification, AWQR, financial assurance). The documentation required generally changes as the MSWLF is developed. The documentation consists of:

- Permit application, permit renewal and permit amendment documentation is submitted pursuant to 567 IAC 113.4, 113.5, 113.11(1)“a”, and pursuant to Iowa Code section 455B.305.
- Reporting requirements expressed in 567 IAC 113.4(10)“c”(4) and 576 IAC 113.4(10)“e”(2), pursuant to 40 CFR, Part 258.4 for research, development and demonstration (RD&D) permits, demonstrates whether and to what extent the site is progressing in attaining project goals.
- The site exploration and characterization report required in 567 IAC 113.6(4) and 567 IAC 113.11(1)“b” is submitted for DNR review whenever additional areas are proposed for waste disposal, to validate that the areas meet siting and setback requirements that include local siting approval, airports, floodplains, wetlands, fault areas, seismic impact zone, unstable areas, threatened or endangered flora and fauna, cultural resources, separation from groundwater, wells and community water systems, property line setback, and housing and sensitive populations. In addition, the site exploration and characterization report includes information on the soil and hydrogeologic conditions at the site.
- MSWLF design and construction plans and specifications and related analyses are required to be maintained and submitted to the DNR pursuant to 567 IAC 113.7 and 567 IAC 113.11(1)“c”. These documents enable the DNR to approve future areas for development, which aids in financial planning for the permit holder and establishes minimum siting setback distances (e.g., future area may not meet a setback distance to a well or residence, unless it’s documented that the development plans were prepared

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and approved by DNR prior to a new well or residence being placed near the MSWLF). In addition, a leachate control system performance evaluation (LCSPE) report is required in 567 IAC 113.7(5)“b”(14) (Iowa Code section 455B.306(7)“b”) to evaluate the effectiveness of the installed leachate collection system. The QC&A program final reports, pursuant to 567 IAC 113.7(6)“d”, are submitted for DNR review to ensure that new MSWLF cells meet minimum state and federal design requirements.

- Pursuant to 567 IAC 113.5(1)“e” and 113.8(4), MSWLFs are required to maintain and submit DOPs to the DNR for review as part of the permit application and renewal process. The DOPs records how the MSWLF will implement general and unique operating procedures (i.e., Iowa Code sections 455B.304 and 306, certain disposal prohibitions in Iowa Code section 455D, and 40 CFR, Part 258, Subpart C) at the site to protect human health and the environment.
- Pursuant to 567 IAC 113.8(5) and Iowa Code section 455B.306(7)“d”, MSWLFs are required to maintain and submit an ERRAP at the time of permit renewal or modification that incorporates facility changes that will impact the ERRAP. The ERRAP outlines detailed measures to reduce impacts of emergency situations to human health and the environment.
- Inspection records, training procedures, and notification procedures required in 567 IAC 113.8 and submitted pursuant to 567 IAC 113.11(1)“d”, provide DNR staff with documentation that the permit holder is conducting these activities in accordance with applicable regulations.
- Any leachate recirculation documentation as required under 567 IAC 113.8(1)“b”(3)“2” and “3” and 567 IAC 113.11(1)“e”, to demonstrate that the liquids are accepted in accordance with applicable federal regulation (i.e., 40 CFR, Part 258.28).
- Gas monitoring results from monitoring and any remediation plans required by 567 IAC 113.9 and 567 IAC 113.11(1)“f”, which allow the DNR to evaluate the impact of a gas release from the MSWLF.
- Any demonstration, certification, finding, monitoring, testing, or analytical data required by 567 IAC 113.10 and 567 IAC 113.11(1)“g”, which provides a tracking tool for the DNR to monitor that water quality is being protected in accordance with the “Groundwater Protection Act” (i.e., Iowa Code section 455E).
- Closure and postclosure care plans, closure certification, postclosure certification and any monitoring, testing, or analytical data as required by 567 IAC 113.12 and 113.13, Iowa Code section 455B.306(7)“a” and 567 IAC 113.11(1)“g”; allow the DNR to evaluate the status of closed sites to ensure they’re consistent with long-term land usage, water quality protection and management of landfill gases.
- Any cost estimates and financial assurance documentation required by 567 IAC 113.14, 567 IAC 113.11(1)“i”, Iowa Code sections 455B.304(8), 455B.306(7)“c” and 455B.306(9), and 40 CFR, Part 258, Subpart G. Financial assurance protects the citizens of Iowa from

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incurring unforeseen costs if a MSWLF owner is unable or unwilling to pay for proper site closure, by requiring that funds be set aside prior to permit issuance. Submittal of the cost estimate, annual financial statements and balances of the closure and post closure accounts ensures that the amount of financial assurance will be sufficient to cover the closure and postclosure care costs of each sanitary landfill.

- Documentation regarding protection of liner from freeze/thaw effects in accordance with 567 IAC 113.8(2)“b”(4) to ensure that the liner performs as designed and constructed.
- Documentation that disposal of leachate is done in accordance with 567 IAC 113.8(3)“i” via a publicly owned wastewater treatment works (POTW) agreement or NPDES permit to ensure that waters of the state are protected.
- Pursuant to 567 IAC 113.8(6), sanitary landfill operators must be certified through a DNR-approved certification program. The operator certification application process enables the landfill operators to obtain training and demonstrate competency in this field to the DNR as required by Iowa Code section 455B.304(11).
- Pursuant to 567 IAC 113.8(6)“e”, documentation of alternate training must be submitted to the DNR to evaluate the equivalency of the training prior to issuing an operator certification.
- Pursuant to 567 IAC 113.15, any request for a variance consideration shall be submitted to the DNR in accordance with 561 IAC 10. The request provides the DNR with the information needed to determine if the variance is warranted.

8c. Who reviews the paperwork required by the chapter?

DNR central office program staff (e.g., environmental engineers, environmental specialists), DNR field office staff, and groundwater scientists employed by the DNR review the paperwork noted above to ensure compliance with regulations and to ensure such activities are protective of human health and the environment. All records are available online for public review.

8d. How is the documentation or paperwork required by this chapter informative or useful for the public?

Because all paperwork is made public, it provides transparency and a level playing field for all required to comply with this administrative chapter. The minimum permit application and management plans required in this administrative chapter provide the DNR and the public with information on who, what and how solid waste materials are being managed at a site. These application requirements are vital to the permitting process to ensure these facilities are appropriately designed and constructed, and that all solid waste management activities are conducted in a manner that is protective of human health and the environment. Furthermore, because of the public’s sensitivity regarding MSWLFs, due to the potential long-term threat to ground water posed by the millions of cubic yards of material deposited within sanitary landfills, constant oversight and demonstration of compliance are needed to gain and hold

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public trust.

8e. How, if possible, can the documentation or paperwork requirements be reduced?

Opportunities exist to restructure and simplify the required plans that must accompany each permit application, and opportunities to reduce paperwork through streamlining and standardizing reporting requirements (e.g., online application and reporting, financial assurance). Consideration of a lifetime permit, rather than a 5-year term permit, could further reduce the level of paperwork required to maintain a MSWLF permit. Some of the alternatives provided in response to questions 5e and 10b could also reduce the paperwork required by this administrative chapter.

9. DO OTHER STATE AGENCIES REGULATE THE ISSUES ADDRESSED BY THIS CHAPTER?

9a. Do any other state agencies regulate any issue(s) addressed by this chapter?

Yes No (check or circle)

If the answer is "yes," then answer questions 9b to 9e. If not, then proceed to question 10.

9b. If other state agencies regulate any issue(s) addressed by this chapter, provide the name of each agency, a description of how each agency is involved, and specify the subject matter regulated by each agency.)

Not Applicable

9c. Is there a need for more than one set of rules?

Yes No (check or circle)

If the answer is "yes," then proceed to question 9d. If not, then proceed to question 9e.

9d. If any other state agencies regulate any issue(s) addressed by this chapter and one or more of the other sets of rules are necessary, explain why.

Not Applicable

9e. If this chapter or a portion thereof is duplicative, explain how and why.

Not Applicable

10. IS THE CHAPTER USER FRIENDLY?

10a. Is the chapter written and organized in a clear and concise manner so that those to whom it applies can readily understand it?

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Yes No (check or circle)

If the answer is "no," then answer question 10b. If not, then proceed to question 11.

10b. If not, explain what changes can be made to improve readability, eliminate ambiguity, or increase understanding. Be specific, to the extent possible.

- Clarification is needed in 567 IAC 113.8(6)“h”(6) for those applying for operator certification using reciprocity provisions as to how the application deadlines for an examination apply.
- 113.7(6)“b” should be revised to make it clear that closure construction is also subject to the QC&A requirements of 113.7(6).
- Additional explanation in 113.7(7)“b”(2) would assist permit holders in understanding the type of failures that should be evaluated when designing a vertical expansion (e.g., slope or rotational failure of the liner, leachate collection system, waste fill and final cap).
- To assist both the permit holder in maintaining compliance and the DNR in review time, a specified format for water quality reports could be added to the chapter.
- The requirements in 567 IAC 113.7(5) regarding alternative liner modeling should be clarified to specify the modeling considerations that need to be addressed (e.g., degradation) to make a demonstration. Or on the other hand the rule could be revised to provide for a simpler evaluation that focuses on equivalent leakage (advective and diffusive) to the prescriptive liner.
- Statistical significance of QCA testing could be specified so permit holders know exactly what is required to comply with the rule.
- Definitions should all be in one location in the chapter (567 IAC 113.3). Currently, 567 IAC 113.6(2) contains many additional definitions.

11. ARE THE CITATIONS IN THE CHAPTER ACCURATE?

11a. If this chapter contains Iowa Code citations, are those citations proper and current?

Yes No Not Applicable (check or circle one option)

If the answer is "no," then answer question 11b. If not, then proceed to question 11c.

11b. If not, list and explain the corrections that need to be made to the Iowa Code citations.

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- 567 IAC 113.8(5)“b”(2)“1” – the correct code reference is Iowa Code section 455B.306(7)“d”.
- 567 IAC 113.14(1) references Iowa Code section 455B.306(8), when this reference should be Iowa Code section 455B.306(9).
- 567 IAC 113.14(3)“a” references Iowa Code sections 455B.306(8)“e”, 455B.306(6)“c” and 455B.306(8)“b”, when these references should be 455B.306(9)“e”, 455B.306(7)“c” and 455B.306(9)“b” respectively.
- 567 IAC 113.14(4)“a” references Iowa Code sections 455B.306(8)“e”, 455B.306(6)“c” and 455B.306(8)“b”, when these references should be 455B.306(9)“e”, 455B.306(7)“c” and 455B.306(9)“b” respectively.
- 567 IAC 113.14(6) references Iowa Code section 455B.306(8)“a”, when this reference should be 455B.306(9)“a”.
- 567 IAC 113.14(6)“c”(3) references Iowa Code section 455B.306(8)“b” twice, when these references should be 455B.306(9)“b”.
- 567 IAC 113.14(6)“d”(6) references Iowa Code section 455B.306(8)“b”, when this reference should be 455B.306(9)“b”.
- 567 IAC 113.14(8) references Iowa Code section 455B.306(8)“b”, when this reference should be 455B.306(9)“b”.
- 567 IAC 113.14(8)“g” references Iowa Code section 455B.306(8)“b”, when this reference should be 455B.306(9)“b”.

11c. If this chapter contains federal statutory citations, are those citations proper and current?

Yes No Not Applicable **(check or circle one option)**

If the answer is “no,” then answer question 11d. If not, then proceed to question 11e.

11d. If not, list and explain the corrections that need to be made to the federal statutory citations.

Not Applicable

11e. If this chapter contains federal regulatory citations, are those citations proper and current?

Yes No Not Applicable **(check or circle one option)**

If the answer is “no,” then answer question 11f. If not, then proceed to question 11g.

11f. If not, list and explain the corrections that need to be made to the federal regulatory

citations.

- In 567 IAC 113.8(1)“b”(3), an “s” has erroneously been added to the word “Waste” in the name of SW-846. The correct name is “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”.
- 567 IAC 113.14(6)“e”(5) references 40 CFR, Part 258.74, however, this section pertains to allowable financial assurance mechanisms. The correct reference for required cost estimates would be either the chapter in its entirety (40 CFR, Part 258, as was done in 567 IAC 113.14(6)“e”(2)“1”), or sections 40 CFR, Part 258.71 through 40 CFR, Part 258.73.
- 567 IAC 113.14(6)“f”(4)“2” references 40 CFR, Part 144.62, however, this is the only reference to 40 CFR, Part 144 that specifies subsection 62. As was the case above, this CFR reference to Part 114.62 is pulled verbatim from 40 CFR, Part 258.74(f)(4)(ii).

11g. If this chapter contains internal cross-reference citations, are those citations correct and current?

Yes No Not Applicable **(check or circle one option)**

If the answer is “no,” then answer question 11h. If not, then proceed to question 11i.

11h. If not, list and explain the corrections that need to be made to the internal cross-references.

- 567 IAC 113.10(6)“g”(1)“2” should reference 567 IAC 113.10(6)“d”(2) instead of 567 IAC 113.10(6)“g”(2).
- 567 IAC 113.14(3)“c” references 567 IAC 103.5(1)“i”, however this is a typo and should reference 567 IAC 113.5(1)“i”.
- 567 IAC 113.14(6)“i”(4) and (5) reference the “pay-in period” as defined in this subrule, when a more accurate reference would be 567 IAC 113.14(6)“i”(3). This would mirror how it’s expressed in 567 IAC 113.14(6)“a”(3) and (4) for trust funds.

11i. If the chapter contains cross-reference citations to other chapters, are those citations correct and current?

Yes No Not Applicable **(check or circle one option)**

If the answer is “no,” then answer question 11j. If not, then proceed to question 11k.

11j. If not, list and explain the corrections that need to be made to the cross-references to other chapters or outside sources.

Not Applicable

11k. If this chapter contains website references, are those website references necessary, correct and current?

<p>Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> (check or circle one option)</p> <p><i>If the answer is "no," then answer question 11l. If not, then proceed to question 11m.</i></p>
<p>11l. List and explain any necessary corrections to the website references.</p> <p>Not Applicable</p>
<p>11m. If the chapter contains <u>addresses and phone numbers</u>, are the addresses and phone numbers necessary, correct and current?</p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> (check or circle one option)</p> <p><i>If the answer is "no," then answer question 11n. If not, then proceed to question 11o.</i></p>
<p>11n. List and explain any corrections that need to be made to the addresses and phone numbers contained in the chapter.</p> <p>Not Applicable</p>
<p>11o. If the chapter contains <u>adoptions by reference</u>, are those adoptions by reference correct and current?</p> <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> (check or circle one option)</p> <p><i>If the answer is "no," then answer question 11p. If not, then proceed to question 11q.</i></p>
<p>11p. List and explain any corrections that need to be made to update adoptions by reference. Footnote 4 of the Appendix II refers to the collective Index. The complete name is the 9th Collective Index of Chemical Abstracts.</p>
<p>11q. If the chapter contains <u>DNR-created documents adopted by references</u>, are those document references necessary, correct and current?</p> <p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Applicable <input type="checkbox"/> (check or circle one option)</p> <p><i>If the answer is "no," then answer question 11r. If not, then proceed to question 12.</i></p>
<p>11r. List and explain any corrections that need to be made to update the DNR-created document references.</p> <p>Not Applicable</p>

<p>12. WHAT PUBLIC GROUPS ARE AFFECTED BY THE CHAPTER?</p>
<p>12a. List any stakeholder groups, workgroups, public groups or other public participants impacted by the issues in the chapter.</p> <p>Potential interested parties: Public and private agencies operating or planning to operate a municipal solid waste sanitary landfill in Iowa, Iowa Society of Solid Waste Operations</p>

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(ISOSWO), Association of Business and Industry (ABI), Iowa Solid Waste Comprehensive Planning Areas, Iowa Environmental Council (IEC), Iowa League of Cities, Iowa State Association of Counties (ISAC), Iowa Groundwater Association, Iowa Recycling Association (IRA), County Environmental Health Sanitarians, Sierra Club - Iowa Chapter, Iowa Citizens for Community Improvement, and the U.S. EPA.

12b. If any stakeholders have already been included in a review process for this chapter during the past five years, state the names of those stakeholder groups, workgroups, public groups, or other public participants, and explain the nature of their involvement.

External stakeholder feedback has not been sought in the past five years regarding revisions to this administrative chapter. However, extensive stakeholder input was solicited during the last chapter revision in 2008, and the DNR maintains regular contact with most impacted stakeholders.