

GRRWA

Great River Regional Waste Authority
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March 5, 2007

Mr. Alex Moon
Iowa Department of Natural Resources
502 East 9th Street
Des Moines, Iowa 50319

Re: Rule Revision for IAC 567 – Chapter 113 Sanitary Landfills for Municipal Solid Waste:
Groundwater Protection Systems for the Disposal of Non-Hazardous Wastes

Dear Mr. Moon:

The Great River Regional Waste Authority has always endeavored to comply with the Federal requirements of 40 CFR Part 258 – Criteria for Municipal Solid Waste Landfills as implemented under the current IAC 567 – Chapter 113 via Iowa’s delegation and approval from EPA to administer RCRA Subtitle D.

We understand and fully support compliance with State and Federal requirements for municipal solid waste landfills. We have demonstrated our willingness to comply through our investment of significant capital in 1994 to construct a Subtitle D compliant landfill cell.

GRRWA is providing attached hereto our comments regarding the proposed rule revisions to IAC 567 – Chapter 113. Thank you for this opportunity to comment and participate in the rule revision process. If you have any questions, please do not hesitate to contact me at 319-372-6140.

Sincerely,

Wade Hamm
Operations Manager, GRRWA

Recommended Modifications to Proposed 567-113(455B) Sanitary Landfills for Municipal Solid Waste: Groundwater Protection Systems for the Disposal of Nonhazardous Wastes

The recommended modifications were based on Item 5 of the Notice of Intended Action dated December 6, 2006. The recommended modifications are shown as underlined italics and ~~strikethrough~~.

1. Proposed change to 567-113.1(455B) Purpose.

The purpose of this chapter is to protect human health and the environment through the implementation of minimum national standards pursuant to the Resource Conservation and Recovery Act (“RCRA” or “the Act”) for all municipal solid waste landfill (MSWLF) units which accepted waste after the effective date of these rules and under the Clean Water Act for MSWLFs units which accepted waste after the effective date of these rules that are used to dispose of sewage sludge. MSWLF units which do not accept waste after the effective date of these rules and which are not contiguous with MSWLF units which accept waste after the effective date of these rules shall comply with the rules in effect at the time of cessation of waste acceptance.

This chapter details the permitting, siting, design, operating, monitoring, corrective action, reporting, record-keeping, closure, and postclosure requirements for all ~~sanitary landfills~~ MSWLF units accepting municipal solid waste (MSW) which accepted municipal solid waste (MSW) after the effective date of these rules or which are contiguous with MSWLF units which accepted MSW after the effective date of these rules.

Groundwater is a precious resource ...

Discussion:

Language has been added to clarify that the proposed rule only applies to those MSWLF units (inclusive of contiguous portions thereof, closed or active) which accept waste after the effective date of these proposed rules and not all MSWLF units are required to comply with these proposed rules. This is based on the assumption that MSWLFs which accepted waste after October 9, 1994, but stopped accepting waste prior to the effective date of these rules will continue to be regulated under the rules in effect at the time waste acceptance and deposition into the unit ceased.

2. Proposed changes to 567-113.2(455B) Applicability and compliance.

113.2(1) All MSWLF units which accepted ~~sanitary landfills accepting~~ municipal solid waste after the effective date of these rules or which are contiguous with MSWLF units which accepted MSW after the effective date of these rules must comply with the provisions of this chapter.

Alternative Change:

113.2(10) This chapter does not apply to MSWLF units that did not receive waste after the effective date of these rules and which are not contiguous with MSWLF units which

received waste after the effective date of these rules. The rules in effect at the time of cessation of waste acceptance would govern such MSWLF units.

Discussion:

See discussion for Item No. 1.

113.2(5) Regulatory Framework for Closure of MSWLF Units

a. MSWLF units that received waste after October 9, 1991, but stopped receiving waste before October 9, 1994, are exempt from all requirements of this chapter, except the final cover requirement specified in subrule 113.12(1) of 113.12(2). The final cover must have been installed within one year after October 9, 1994. Owners and operators of MSWLF units described in this subrule that failed to complete cover installation within one year after October 9, 1994, will be subject to all requirements of this chapter, unless otherwise specified.

b. MSWLF units that received waste after October 9, 1994, but stopped receiving waste prior to the effective date of this chapter, must meet the closure criteria in accordance with the rules in effect at the time the MSWLF unit stopped receiving waste

Discussion:

The intent of the federal language in 113.2(5)"a", which was promulgated on October 9, 1991, was to provide an incentive for landfills unable to meet the federal criteria to close. Codifying this language into current rule would require all MSWLF units that received waste after October 9, 1994, or that did not have a final cover installed by October 9, 1995, to comply with the criteria of the new rule. A literal reading and application of the current rule could require significant retrofitting of these landfills to install or upgrade leachate collection systems, groundwater monitoring systems, final cover systems, for which environmental benefit would be difficult to demonstrate.

The added language of 113.2(5)"b" allows the landfills falling within these regulatory timeframes to close under the existing rules, which were approved by EPA in 1997 and which have sufficient regulatory structure to provide environmental protection.

3. Proposed change to 567-113.3(455B) Definitions.

"Substantial change" means significant changes in the total storage, process, treatment, or disposal capacity of the solid waste facility. A substantial change also includes a lateral expansion of an existing solid waste landfill or the addition of a process or a major piece of equipment.

Discussion:

The definition of substantial change has been added to clarify under what criteria public notice and participation are required for permits and permit amendments.

4. **Proposed changes to 567-113.4(455B) Permits.**

113.4(10)"e"(1) The total term for a *RD&D* permit for a project including renewals may not exceed twelve years, during which time, based on the department review of the detailed assessment required under 113.4(10)e(2), the RD&D permit provisions may be established as part of the operating permit conditions under 113(4)4; and...

Discussion:

This RD&D permit section of the proposed rule appears to allow application of new and improved technologies to the design and operation of landfills. For example, under this section, an operator may be able to demonstrate that an engineered final cover design using naturally-occurring materials could be more protective of the environment over a longer period of time and less likely to fail than the prescriptive design using man-made materials. However, to limit the total term of the project at 12 years could have significant implications for a 30-year postclosure and ultimate use periods. Provisions are needed to allow all or portions of RD&D permit provisions to become operating permit conditions, if the detailed assessment required for RD&D permits provides adequate demonstration of the benefit of the technology. The 12-year total time limit will impede the application of new landfill technologies, which is contrary to the intended purpose of the RD&D provisions.

113.4(12)"b" Prior to the issuance of an MSWLF permit or approval of a substantial change amendment, public notice shall be circulated in a manner designed to inform interested and potentially interested persons of the proposed determination to approve or deny a permit or substantial change amendment request.

Discussion:

According to this rule, a request for permit amendment requires adherence to the public notice requirements of this rule prior to issuance of a permit or approval of a permit amendment. According to this proposed rule, public notices must be posted at certain locations, including places near the facility, published in local newspapers, and mailed to department-specified persons. The public must then have 30 days (or longer if extended by the department) to respond to the public notice, at which time, the commenter can request a public hearing. If the department grants a public hearing, a second public notice with similar circulation and timeframe (another 30 days) elements are required to inform the public where, when, and why the hearing is to be held. All comments that are received at the hearing must then be reviewed and responded to in writing by the department, along with a final decision to approve or deny the proposed permit amendment by the department.

The public notice requirements could be considered reasonable for changes that are substantial, including a lateral expansion of the permitted waste boundary, acceptance of a different type of waste, or addition of a process, such as a methane gas-powered electric generator. However, implementing public notice requirements for minor changes such as using a different brand of a particular type of alternative daily cover, abandoning a well, or installation of new monitoring wells, etc. is unnecessary, and could serve to hinder the efficient operation of the landfill. Since the proposed rule does not include a definition or

a description of a permit amendment, it is assumed that the current design or operational changes that require a permit amendment will remain the same.

A distinction should be made as to what types of changes trigger the public notice requirement. The added language above requires an additional definition for “substantial change” (See Proposed Change No. 3 above). Changes that are not substantial would not require public notice.

Previous experiences with public notice requirements have shown that this requirement can be abused for political or business purposes. Competing agencies can generate numerous comments and request hearings for any proposed action that requires a public hearing, thus jeopardizing the intended purpose of the public notice requirement.

5. Proposed change to 567-113.5(455B) Permit application requirements.

No proposed changes to this section.

6. Proposed change to 567-113.6(455B) Siting and location requirements for MSWLFs.

~~113.6(2)“i” ... The separation of the base of the MSWLF unit from the high water table shall be measured and maintained in a manner acceptable to the department.~~

Discussion:

Installing groundwater measuring devices to measure groundwater levels beneath the MSWLF unit is not necessary and construction of such devices in a manner that provides accurate measurement of groundwater levels beneath the lowest portion of the MSWLF unit is difficult. Installation of engineered groundwater trenches and drainage layers have been shown to be effective in lowering groundwater levels.

~~113.6(2)“j” ... An MSWLF unit shall not be constructed if the projected plume modeled pursuant to subparagraph 113.6(3)e(6) extends to ~~is within 1,000 feet of~~ any downgradient well or community water system.~~

Discussion:

The requirement effectively adds 1,000 feet to the required 1,000-foot setback distance from downgradient wells and community water systems. A setback distance of 2,000 feet for a theoretical release is not needed.

7. Proposed changes to 567-113.7(455B) MSWLF unit design and construction standards.

~~113.7(5)“b”(3) ... Furthermore, an additional measuring device shall be installed to measure leachate directly on the liner but not in the sump or within the connection trench. Leachate head measurements from cleanout lines or manholes are not acceptable for the~~

~~second measurement. All such measurement devices shall be in place before waste is placed in the MSWLF unit.~~

Discussion:

Federal regulation requires that the leachate collection system be designed and constructed to maintain less than 30 centimeters of leachate over the bottom liner system; it does not require leachate head monitoring or measurement. Proper leachate system design and proper operation and maintenance of the leachate collection system, which includes regular removal of accumulated leachate, deems a measurement device unnecessary. In addition, placement of leachate piezometers inside the active area hinders operations and is a source of potential accidents and possible damage to the liner system. Leachate build-up is often a localized phenomenon due to the non-homogeneous nature of solid waste; therefore, the leachate head measured at a piezometer will not likely represent the entire cell. In addition, MSWLF units in operation prior to the effective date of this rule could be required to excavate substantial volumes of waste to install a measurement device of questionable reliability.

113.7(5)b(7)3 ...A geosynthetic drainage media (e.g. geonet) ~~with a minimum thickness of 300 mil or greater~~ sized in accordance with appropriate design calculations. The geonet shall be covered on both sides with the geotextiles specified in numbered paragraphs 113.7(5)b(7) “1” and “4.”

Discussion:

Specifying a minimum 300 mil thick geonet eliminates sources of geonet products that are less than 300 mil thick but achieve higher transmissivities than some 300 mil geonets. The specification for type and size of geonet should be left to the engineers to design on a site-specific basis.

113.7(5)b(7)5 Course granular (e.g. coarse sand) top layer at least 6 inches thick to separate waste from the geotextile listed in numbered paragraph 113.7(5)b(7)“4.” The coarse granular layer shall have a fines content of less than ± 5 percent passing a #200 sieve...

Discussion:

Specifying a maximum 1 percent fines content is not practicable. Movement (i.e. transporting, dumping, and spreading) of the material generates fines. According to some sources, approximately 0.5 to 1 percent fines are produced each time the material is handled. The specification listed in 113.7(5)b(7), which states that “no component of the leachate collection system shall have a hydraulic conductivity of less than 1×10^{-2} cm/sec” should alleviate a concern with fines content in the coarse granular layer, which is listed as a component of the leachate collection system.

113.7(6)"b"(1) ...~~A double ring infiltrometer test shall be utilized as a final QC&A test of the compacted soil portion...~~

Discussion:

Double-ring infiltrometer (DRF) testing is a destructive testing method, which, according to standard practice is usually performed on test pads and not in the soil liner itself. Utilizing DRF for very low hydraulic conductivities (1×10^{-7} cm/sec) can require days to complete. The apparatus must be set up and infiltration must be allowed to occur until steady-state infiltration is observed. To provide quality control of the test, a field technician would be needed at the site for substantial periods of time. One advantage of DRF testing is on soils that have undergone desiccation cracking. For clay liners under construction, where moisture content is closely monitored, DRF testing would not be needed.

113.7(7)"a"(2) The abutment slope shall have a 20 percent minimum slope and comply with subrules 113.7(4), 113.7(5), and 113.7(6). Alternative abutment slopes will be approved based on review and approval of the department of supporting documentation calculations to demonstrate that the criteria pursuant to subrules 113.7(4), 113.7(5), and 113.7(6) are met.

Discussion:

The 20% slope is a prescriptive standard and does not allow for engineering applications for shallower slopes. In addition to the cited subrules, which require compliance with subgrade design, liner and leachate collection system design, and QC&A procedures, subrule 113.7(7)"a"(3) requires a slope stability analysis of the abutment slope. Settlement calculations can also be applied to indicate long-term changes in abutment slope. There are widely recognized engineering analytical methods available to demonstrate the long-term performance of the landfill components (leachate collection system, liners, etc.) associated with the abutment slope. Flexibility should be provided for abutment slopes.

8. Proposed change to 567-113.8(455B) Operating requirements.

113.8(2)"f"(2) Intermediate cover. At least 8 inches ~~1-foot~~ of compacted cover material or alternative cover material shall be placed and maintained over waste in the active portion that has not or will not receive more waste for at least 30 days.

Discussion:

The requirement to apply 1 foot of material at 30 days is excessive and unnecessarily consumes airspace. Since the rule requires that the placed material be maintained, reducing the thickness to 8 inches will accomplish the same goal of covering the waste and use less airspace.

9. Proposed change to 567-113.9(455B) Environmental monitoring and corrective action requirements for air quality and landfill gas.

No proposed changes to this section.

10. **Proposed change to 567-113.10(455B) Environmental monitoring and corrective action requirements for groundwater and surface water.**

567-113.10(455B) Environmental monitoring and corrective action requirements for groundwater and surface water. All MSWLFs units which accepted waste after the effective date of these rules and those MSWLF units which are contiguous with MSWLF units which accepted waste after the effective date of the rules shall comply with the following environmental monitoring and corrective action requirements for groundwater and surface water. MSWLF units which stop accepting waste prior to the effective date of the rules and which are not contiguous with post- rules effective date active MSWLF units, shall comply with the closure and postclosure requirements in effect at the time waste acceptance ceased.

Discussion:

This section indicates that all landfills will have to comply with this section regardless of when they closed. Landfills which are currently open have been investing in postclosure funds based on the current rules. They should not be subjected to rule changes which they could not plan for and which are occurring at the time of loss of revenue stream due to closing their gates. Additionally, landfill areas which will stop accepting waste by the effective date of these rules and which are physically separate from on-going active areas should not be required to change from the closure and postclosure that been planned. Therefore, text additions have been made to clarify that this section only applies to those MSWLF units (inclusive of contiguous portions thereof, closed or active) which accept waste after the effective date of these proposed rules and not all MSWLFs are required to comply with these proposed rules.

113.10(2) Groundwater monitoring systems. All MSWLFs units which accepted waste after the effective date of these rules and which are not contiguous with post-rules effective date active MSWLF units shall have a groundwater monitoring system that complies with the following requirements:

Discussion:

See discussion for the comment directly above.

113.10(5)"c" If the owner or operator determines, pursuant to paragraph 113.10(4)"i," that there is an SSI over background for ~~one~~ two or more of the constituents listed in Appendix I ~~or indicator parameters listed under paragraph 113.10(5)"a"~~ at any monitoring well specified under subrule 113.10(2), then the owner or operator:

(1) Must, within 14 days of this finding, place a notice in the operating record indicating which constituents have shown statistically significant changes from background levels, and notify the department that this notice was placed in the operating record.

(2) Must establish within 90 days an assessment monitoring program meeting the requirements of subrule 113.10(6) except as provided in subparagraph 113.10(5)"c"(3).

(3) The owner or operator may demonstrate that a source other than an MSWLF unit caused the contamination or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. A report documenting

this demonstration must be certified by a qualified groundwater scientist, approved by the department, and placed in the operating record. The department has 90 days after submittal of the demonstration to approve, disapprove, or request additional information. If a successful demonstration to the department is made and documented, the owner or operator may continue detection monitoring as specified in subrule 113.10(5). If, ~~after 90 days,~~ a successful demonstration is not made, the owner or operator must initiate within 30 days of receipt of the department's disapproval an assessment monitoring program as required in subrule 113.10(6).

Discussion:

With an allowable Type I error rate of up to 5% for each testing period, a minimum of two SSIs should be required to trigger an assessment monitoring program (which could include alternative source demonstration or error in sampling, analysis, statistical evaluation, or natural variation).

Indicator parameters as a trigger for establishing an assessment monitoring program have been removed from this subrule as assessment monitoring under 113.10(6) is only required when an SSI over background has been detected in one or more of the Appendix I parameters.

A timeframe for department review has been added as well as additional time to implement an assessment monitoring program after a department response to the demonstration has been received. Even with the proposed changes, an owner or operator who believes that the SSI is the result of an alternative source or an error in sampling, analysis, statistical evaluation, or natural variation would be required to simultaneously prepare a demonstration to that fact and an assessment monitoring program in the event that the demonstration is not accepted by the department. Without the timeframe for the department review, it is likely that the owner or operator would be required to implement the assessment monitoring program prior to receiving a response to the demonstration.

113.10(6)"d" After obtaining the results from the initial or subsequent sampling events required in paragraph 113.10(6)"b," the owner or operator must:

(2) Within 90 days, and on at least a semiannual basis thereafter, resampling all wells specified by subrule 113.10(2) and conduct analyses for all constituents in Appendix I, the indicator parameters listed in paragraph 113.10(5)"a," and for those constituents in Appendix II that are detected in response to the requirements of paragraph 113.10(6)"b." Concentrations shall be recorded in the facility operating record. At least one sample from each well (background and downgradient) must be collected and analyzed during these sampling events. The department may also specify an alternative monitoring frequency and lesser number of monitoring wells requiring sampling during the active life (including closure) and the postclosure period ~~for the constituents referred to in this subparagraph~~ all constituents in Appendix I, the indicator parameters listed in paragraph 113.10(5)"a," and for those constituents in Appendix II that are detected in response to the requirements of paragraph 113.10(6)"b." The alternative frequency for Appendix I constituents, and indicator parameters listed in paragraph 113.10(5)"a" during the active life (including closure) shall be no less than annual. The alternative frequency during the active life (including closure) may be more frequent than semiannual depending on risk factors and data analysis. The alternative frequency shall be based on consideration of the factors specified in paragraph 113.10(6)"c";

Discussion:

Provision has been added to allow the department to reduce the number of monitoring wells requiring sampling of the full set of specified analyses in each well. Currently the proposed language would require sampling of a detected Appendix II parameter in all wells when it may have only been detected in one. There may be circumstances where sampling for that detected parameter should only be required in the well in which it was detected.

113.10(6)'' The department *or the owner or operator with approval by the department* may establish an alternative groundwater protection standard for *Appendix II* constituents ~~for which MCLs have not been established~~. These *alternative* groundwater protection standards shall be appropriate health-based concentrations that comply with the *site specific-standards* ~~statewide standards~~ as applies to ~~for groundwater established~~ pursuant to 567-Chapter 137.

Discussion:

The proposed code has been modified to broaden the scope of this paragraph to allow the department or the owner or operator to establish a standard for a specific site which represents a concentration of a contaminant in a media of an affected area at which exposure through a specific pathway is considered unlikely to pose a threat to human health, safety, or the environment given site specific factors related to contaminant transport and likely exposure.