

March 3, 2007

Alex Moon
IDNR Energy & Waste Management
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502 E. 9th St
Des Moines, IA 50319

RE: Comments to the proposed Chapter 113 rules

Dear Alex,

Enclosed are my comments to the proposed solid waste rules including Chapter 113. I respect the fact that you and others have worked hard to develop revised solid waste rules. However, I hope that you will take my comments seriously and consider my recommendations as the rules are finalized. I have worked in the solid waste field for 29 years and understand the basis for portions of the proposed rules. I also understand that some of what is proposed is impractical, unnecessary, costly, and in some situations technically difficult if not impossible to implement.

I will be happy to respond to any questions or the need for clarification. I will also be happy in assisting with revisions to the proposed rules.

Sincerely,

Cindy Turkle
President and Senior Environmental Professional

Enclosure

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COMMENTS TO PROPOSED IDNR RULES INCLUDING CHAPTER 113

February 2007

The following are comments prepared by Cindy Turkle of Turkle-Clark Environmental Consulting, L.C.

I. Preamble to Comments

Following EPA's finalizing of the Subtitle D regulations, the current Chapter 113 rules were developed and approved by EPA, resulting in Iowa becoming an approved state for Federal Subtitle D regulations. At that time the rules were in multiple chapters but were considered adequate and acceptable by both Federal and State staff. IDNR rightly did prohibit the continued horizontal expansion of landfilling outside of the landfill footprint at the time those rules were approved, but all Iowa landfills were allowed to continue to fill on vertical expansions, utilizing valuable air space.

However, now current IDNR staff and reportedly some EPA staff, believe that Iowa landfills should not be allowed to continue landfilling MSW on unlined and non-Subtitle D compliant cells even though they have been permitted to for multiple years and even though some EPA offices continue to allow other states (Texas, Oklahoma, New Mexico, etc.) to utilize vertical air space.

In 2004, apparently IDNR and EPA negotiated a deadline (initially October 1, 2006 and later changed to October 1, 2007) for all landfilling on unlined areas to cease even though vertical air space may still be available. However, IDNR did this **prior to developing and finalizing their revised solid waste rules.**

The proposed timeline and milestones detailed in IDNR Director Vonk's letter to Mr. Spratlin of the EPA Region 7 provided for a timeline for finalizing the rules by the Fall 2005. EPA review of the rules for federal approval would occur in 2006. Non-compliant landfills would be required during the Winter 2006 to submit development plans for upgrades or closure. Following that timeline, the October 1, 2007 milestone anticipated all landfills would be in compliance with 567-Chapter 113 and RCRA Subtitle D liner standards.

The timeline anticipated in January 2005 has been significantly delayed. Chapter 113 rules were not finalized by the milestone of Fall 2005 as anticipated. The release of the draft Chapter 113 did not occur until the Spring of 2006. Formal rulemaking did not begin until the Fall of 2006.

At this point the final form of the Chapter 113 rules is not yet known. Under the original timeline, non-compliant landfills would have had adequate time to submit updated development plans and to implement those plans prior to the compliance date.

By having a deadline date prior to final rules, IDNR has placed multiple landfills in extremely difficult circumstances with limited ability to comply with unknown rules by the deadline date agreed to by IDNR and EPA. For various reasons, IDNR staff failed to provide the final draft of

the rules from which landfills could design expansions that are in compliance. Many landfills have had to submit plans based upon unknown rules. IDNR staff has delayed review and has based reviews sometimes upon the current rules and sometimes based upon the proposed rules. The unknown rules have resulted in confusion and concern on whether the design will continue to be in compliance in the future. The delays have resulted in many landfills being unable to develop and bid construction projects in time to get competitive bids from contractors before their construction schedules filled.

Because the timeline appears to have been delayed by approximately 18 months, we are requesting that the compliance date agreed to by DNR and EPA earlier be also delayed. We request the DNR and EPA consider extending the date to **eighteen (18) months following the finalizing of the Chapter 113 rules**. This would allow additional time for Iowa landfills to finalize development plans and construct cells that comply with the final Chapter 113 rules. That change will allow the following:

- IDNR staff will have actual rules to follow when reviewing plans and designs.
- Landfills with plans pending IDNR approval will have them approved and constructed based upon known regulations.
- Landfills planning construction will have adequate time to competitively bid and construct the landfill before being forced from an existing vertical expansion.
- Landfills being constructed will actually be in compliance upon construction verses automatically being out of compliance with the finalizing of the new rules.
- Landfills that will be closing will have additional time to place waste on the revised vertical expansions in a manner that will correct for modified slopes and drainage issues due to early closing as opposed to having to spend excessive costs to modify the slopes with valuable Iowa soil.

II. IDNR Draft Response dated February 16, 2007

In their document dated February 16, 2007, IDNR staff attempted to respond to preliminary comments on some of the rules regarding why they exceed Federal regulations and what the additional costs are to landfills. The following are comments related to this IDNR document:

- IDNR asserts that the average MSWLF disposal cell is 0.65 acres in size. This size of a cell is unlikely to be constructible as well as being impractical. Normal landfill cells are about five acres in size. This allows adequate space to turn equipment and waste hauling vehicles around, provides a larger footprint as additional lifts are constructed, and can be more readily constructed by a third-party contractor as well as being more cost-effective. As a result the costs provided in the document do not reflect plausible costs for the additional regulations.

III. Specific Comments to Proposed Chapter 113 rules

The following changes to this section are recommended:

Subrule 567-102.15 (455B) Post-closure requirements for MSW landfills that stopped accepting waste prior to October 9, 1994

- 102.15(4)b. – Change the requirement for measuring the elevation of water in each monitoring well to semi-annually to correspond to the sampling frequency. A closed landfill will not have significant variations in groundwater elevations, and only minor fluctuations that may be related to seasonal dry weather. Historical data in conjunction with semi-annual levels is adequate to assess the groundwater flow.
- 102.15(10) – Once permanent monuments are surveyed in, resurveying should not be necessary at a closed landfill unless they have been disturbed. Instead, require the monuments be visually observed during each semi-annual inspection and if disturbed require they be reset and surveyed. A closed site will not have much if any activities that will disturb the monuments and the need for the monuments is minimal.

Subrule 567-113.2(455B)

- The proposed IDNR rules do not address those landfills and landfill units closed between October 9, 1994 and the date proposed by IDNR of October 1, 2007. At this time the proposed rules imply that these landfills will have to comply with the same proposed rules required for landfills that will continue to operate. Some consideration must be provided for those planning to close. These landfills have set aside closure and post-closure funds based upon the **current regulations**, not the proposed rules. It is requested the same requirements in section 102.15 or the current IDNR regulations be allowed for the landfills and landfill units closing between 1994 and 2007.
- 113.2(6) States that MSW “landfill units failing to satisfy these criteria are considered open dumps...” This paragraph needs to be struck because there are many landfill units around the state that were constructed and operated according to IDNR regulations with IDNR approval and permitting that will not be able to meet the new proposed rules because of the extent at which these proposed rules exceed Federal regulations. Instead, it is suggested that the current IDNR regulation in section 113.7 be substituted in whole: *Sanitary disposal projects designed and constructed in accordance with rules in effect at the time of construction shall not be required to be redesigned or reconstructed due to subsequent rule changes unless the department finds that such facilities are causing pollution. Such facilities shall be brought into compliance with rules in effect at the time of reconstructing, enlarging, or otherwise modifying the sanitary disposal project, or at the time of permit renewal. No landfill that has attempted to comply with all regulations and was approved by IDNR wants to nor should be considered an “open dump.”*
- 113.2(9)b States that no “MSW shall be placed in a MSWLF unit that does not comply with the leachate collection and liner requirements of subrule 113.7(5) after October 1, 2007.” The IDNR has delayed the finalizing of the proposed rules causing confusion related to what design criteria will be approved. In addition, IDNR has delayed approving the designs of some landfills with composite liners to the extent that bidding of the construction for the new MSW unit has been prevented and will

significantly limit the ability for construction to be completed by October 1, 2007. In addition, the short time frame will limit the competitive bidding process and increase the cost of construction. As stated earlier, it is recommended that the October 1, 2007 be deleted, the rules formally finalized, and then a deadline date established that will allow two construction seasons after the finalization of the rules.

Subrule 113.3 – Definitions

- The definition for aquifer needs to be revised to mean “a saturated geologic formation or combination of formations which has appreciably greater ability to transmit water than do adjacent formations. An aquifer is capable of yielding usable quantities of water to a well.” This definition is more consistent with that of the EPA, the Iowa Geologic Survey (IGS), and other states. (Refer to Geosyntec report.)

Item 2 of the IDNR Draft Response dated February 16, 2007 responds to previously voiced concerns related to this definition. If IDNR considers “significant” to be interchangeable with “useable” then I encourage a replacement of the word with “significant.” What is “useable quantities” to one person may not be considered “useable” to another. Then there is no questions or future interpretation problems.

- All landfills have had permit renewals prior to these proposed rules being presented. Most have believed they were complying with the rules known at the time. To define an “Existing MSWLF unit” as one “that has received solid waste as of the most recent permit renewal” results in back dating the rules prior to their being finalized and puts some landfills in an impossible compliance situation with some of the proposed rules. In many situations, the MSWLF units have already been designed, permitted, constructed, and are operational according to the current Chapter 113 and may immediately be out of compliance due to the extreme nature of these rules. This definition needs to be revised to reflect this concern.

Subrule 113.4 – Notice and public participation

- Most of Iowa’s landfills are publicly owned and operated, conduct monthly public meetings, post the agenda, and publish the meeting minutes. As currently written, this proposed subrule will require a landfill to go through additional extensive public notification to have a permit renewed and to have even the most minor of permit amendments issued. As written, the rule requires public notification for even minor operational changes such as the type of alternative daily cover or the location of recycling storage areas. This proposed rule will place unnecessary time delays and additional costs on landfills. The landfills should be allowed to operate their landfills without excessive oversight by the public who have limited if any knowledge of landfill operations.

Even the requirement to notify “appropriate governmental agencies” is unnecessary since many that are requested to review the plans (i.e. NRCS) fail to respond because of their time restraints. The rule should be limited to public notice only for expansion outside of the already permitted areas. The proposed rule exceeds the EPA requirement and is excessive and unnecessary for public landfills.

Subrule 113.6 – Siting and location

- The terminology used in the first reference under “bird hazard” is incorrect. Section 503 of the referenced Aviation Act states “Limitation of Construction of Landfills” and further explains when the limitations apply. The term “prohibition” is incorrect and inappropriate and should be changed.
- Subparagraph g. - The requirements detailed for threatened or endangered flora and fauna is not required in the Federal Subtitle D and although is partially listed in the current Chapter 101 of the IDNR rules, the proposed version goes beyond what was required in the past. Specifically, the current requirement states that a “permit applicant **may** be required to conduct an approved site survey,” versus the proposed version that states the “permit applicant **shall** conducted a site survey”. The proposed rule should be changed to “may” because some circumstances may make such required action unnecessary and result in unnecessary expenses. It is recommended the existing rule language be used in the proposed rules.
- Item l - States that a “MSWLF unit shall not be within 500 feet of an occupied residence, recreational area, ...”. This proposed wording is not in existing IDNR or Federal regulations and is excessive. In particular it does not consider the encroachment of new developments and changes to adjacent property of which the landfill has no control. The proposed rule may be able to apply to new landfill siting, but some consideration must be provided for existing landfills that have already developed their long-term site plan. It is recommended that at a minimum, the wording in the current Chapter 113 rules be added to the existing: “The residence must be in existence on the date of application for the original permit from the department.”

The problem could be corrected by simply inserting the “original” in the first sentence to read, “... in existence at the time of receipt of the **original** permit application.” To require this restriction on existing landfills that have already been permitted and constructed is inappropriate. It could result in unnecessary shutting down of permitted landfills in full compliance with all other regulations. It is possible a property owner could hold the landfill “hostage” even though the landfill was permitted prior to the adjacent owner purchasing the property and/or doing any building.

- Subrule 113.6(3) - Requires a specific number of borings and depth of borings that should be site-specific as determined by the design engineer. The sentence requiring a minimum number should be deleted as explained in the Geosyntec report.
- Paragraph (6) of 113.6(3)e requires an analysis of groundwater and surface water and implies that a computer modeling is required. It appears that this rule requires an analysis of potential impacts on groundwater and surface water based on contaminant movement assuming a theoretical release on the downgradient end of the landfill. This assessment of a theoretical release constitutes a “human health risk assessment.”

Human Health Risk Assessments were previously required for pre-1994 sites that did not install retrofitted leachate collection.

Human Health Risk Assessment has been a moot point at RCRA Subtitle D facilities because they all include leachate collection, conveyance, and treatment. In addition, RCRA Subtitle D design is based on sufficient protection of human health and the environment. What has changed that Human Health Risk Assessment is now warranted for RCRA Subtitle D expansions? Isn't such assessment effort simply going to support the fact that EPA liner design is sufficient?

The requirement also appears redundant. The rule strongly infers modeling will be required as part of the analysis. If the site employs an alternate liner, the modeling was already completed prior to design and is, in part, the basis of the design. If the site employs a default composite liner, then modeling was completed by EPA decades ago as part of the default liner design included in Federal rule.

Modeling of a catastrophic release should not be required to properly locate downgradient-monitoring wells. The monitoring wells should already be located based on the comprehensive hydrogeologic investigation completed prior to design of each MSWLF unit. The paragraph exceeds the Federal requirements, is unclear, and subject to IDNR staff to interpret.

Subrule 113.7 – Design and construction standards

- 113.7(2)b. States that new MSWLF units must be constructed in compliance with rules in affect at the time of construction. However, many landfills have already bid projects, signed contracts, and even begun construction based upon previously IDNR-approved plans and specs. To hold up construction projects already approved will result in:
 1. Unnecessary delays as new plans are developed, submitted, and reviewed by IDNR staff.
 2. Unnecessary and expensive costs to redevelop plans and the delay of construction with the potential of missing the construction season due to review and approval delays.
 3. A potential for a landfill to be put in a difficult operational situation if timely reviews are not provided by IDNR staff.

It is recommended a schedule be developed for the implementation of the proposed rules to allow existing landfills that have approved designs and/or pending construction schedules to continue as previously approved. Some “grand-fathering” of the previously approved designs and the new proposed rules needs to be provided. Actually, the entire 113.7(2) b. paragraph should be struck and the wording in the existing 113.7(1) be inserted instead: ***Sanitary disposal projects designed and constructed in accordance with rules in effect at the time of construction shall not be required to be redesigned or reconstructed due to subsequent rule changes unless the department finds that such facilities are causing pollution. Such facilities shall be brought into compliance with rules in effect at the time or***

reconstructing, enlarging, or otherwise modifying the sanitary disposal project, or at the time of permit renewal.

- 113.7(5) a (2) relates to alternative liners and requires the computer modeling point of compliance (POC) be within 50 feet of the liner or waste boundary. This significantly exceeds the Federal EPA requirements for alternative liner modeling which requires the POC to be within 150 meters (492 feet). The IDNR justification for this indicates that this distance is necessary because of the 50-foot distance requirement for wells. However, the IDNR inaccurately assumes the following:
 1. The POC is suppose to be an actual monitoring well, instead it is a computer modeling data point and is not required in any of the Federal regulations to be an actual monitoring location.
 2. IDNR inaccurately assumes monitoring wells are required to be within 50 feet of the waste boundary. Actually, Federal regulations do not specify the distance and instead require the groundwater specialist determine the monitoring wells and their locations on a site-specific basis. Even though existing IDNR rules require the wells within 50 feet that does not necessarily mean that required distance is appropriate for all landfill sites. Instead, one can question why the 50-foot distance was initially placed in the rules and whether it remains appropriate for the proposed rules.
 3. IDNR states in their response of February 16, 2007, that the 50-foot distance is a “restatement of the separation distance in 567-43.3(7) and 567-49.6(1). However, both of these references relate to the location of drinking water wells. The monitoring wells are not intended to be drinking water wells. In fact, the current rules establish that landfilled waste must be at least 1,000 feet from any well used for human or livestock consumption. IDNR has not adequately provided justification for the POC to be an actual well and to be within 50 feet of the waste boundary.
 4. IDNR’s explanation of the construction cost for the additional liner thickness for an alternative lined cell (as referenced in their February 16, 2007 document) is incorrect and does not consider the additional costs associated with excavation of the additional one foot of soil or the difficulty and cost to redesign and construct an alternative lined landfill system to an adjacent unit constructed with a different depth of liner. Such changes to the design can result in major problems to connect to the existing leachate and groundwater dewatering systems that were planned in the original and approved site design.

The POC should be a computer modeling data point only and left at the 150-meter limit detailed in the Federal regulations. IDNR should allow monitoring well locations to be considered on a site-specific basis. IDNR has not demonstrated that lined landfills are causing contamination problems and that more restrictive regulations are justified.

- Liner side slopes for both composite and alternative liners should be based upon the engineer's design and operational considerations. Consideration for steeper slopes should be allowed and provided for in the proposed rules. Refer to the Geosyntec report for further clarification. Requesting variances for alternative slopes is time consuming and defeats the purpose of the rule. The rule needs to be less prescriptive.
- Paragraph b (3) - The requirement to provide an additional leachate head-monitoring device in addition to the sump or other low point has no value. The sump is the lowest location. It will allow measurement of the leachate on the liner. What value does an alternative measuring point have and according to more knowledgeable professionals (refer to Geosyntec report), alternative measuring devices have not proven to be technically and reliably available at this time.
- Paragraph b (4) states that the IDNR may prohibit recirculation unless it was factored into the design. However, existing landfills were designed, approved, and constructed under previously approved rules that are now being changed. Other references in the proposed Chapter 113 rule do allow for recirculation approval. Recent EPA regulations provide for new and existing MSWLF with alternative liners to recirculate leachate as long as the leachate head does not exceed 12 inches on the liner. This needs better clarification. At a minimum, some grandfathering for the recirculation of leachate is needed in the rules to allow those that were previously approved to continue this practice. Most leachate recirculation is actually evaporation of the leachate. Few landfill sites actually inject the leachate and are actually evaporating it.
- The specific requirements for the leachate collection system need to be based upon the design and site-specific conditions instead of being prescriptive. The statement that no component shall have a hydraulic conductivity less than 1×10^{-2} is rash and does not consider all the components in the system (i.e. piping, fabric, etc). In addition, the handling of granular material will result in some fines each time it is handled. Some fines are also created during natural construction activities and must be allowed in the proposed rules. (Refer to Geosyntec report.) Rewording of this rule is needed.
- The terminology "minimal carbonate content" needs to be deleted or the design engineer allowed to demonstrate that carbonate materials would not be detrimental. Landfill pH is not so acidic as to cause significant deterioration of carbonaceous materials. (Refer to Geosyntec report.)
- The requirement for a geotextiles cushion with a FML may result in design and construction problems as described in the Geosyntec report. The components of a leachate collection system should be considered by the design engineer and incorporated in the final design, not prescribed by the IDNR rules.

- All regulations related to geotextiles as components of a leachate collection system and the overall design of the leachate collection system should be considered by the design engineer and incorporated in the final design, not prescribed by the IDNR rules.
- 113.7(6) requirements for the quality control and assurance program should be left to the design engineer to develop and follow.
- Other methods for determining field density testing should be allowed other than the double-ring infiltrometer test. This is an out-dated and unnecessarily expensive test. Other field methods have been proven to be as reliable, less destructive, and should be allowed in the proposed rules.
- 113.7(7) limits the development of a unit that abuts an existing unlined unit. IDNR has continued to approve and permit landfills to do vertical expansion on unlined areas. Under the current rules, IDNR has approved multiple abutments of new Subtitle D landfills up against unlined landfills without a liner along the abutment slope. IDNR states that establishing a slope limit and constructing a liner up the abutment will minimize the influence of the unlined area on the lined area. This may be true, however, some sites and designs may prove to actually benefit if the unlined area could be drained into the lined area's leachate collection system. IDNR states that there is no conflict with Subtitle D because it is not addressed in federal rules. This also is true and could be because federal rules provide that the design engineer will determine the most effective approach based upon the site specifics.

IDNR has not indicated what their intent will be for those landfills that have already constructed abutments up against unlined areas. Will further lining of future abutments up against lined cells be required because of not complying with this proposed requirement in the past? IDNR's cost statement of February 16, 2007 does not consider the cost for redesigning sites. No details were provided to indicate what IDNR's "additional revenue" estimate is based upon. The reported revenue amount is very questionable and the data used to calculate the number was not provided.

The IDNR has incorrectly interpreted Federal regulations to imply all landfilling must be conducted on a lined area. However, Federal regulations do not prohibit the continued placement of waste in an existing unit as long as the waste is placed on top of other waste. The Federal regulations apply only when the "footprint" is expanded. The EPA rules state that the Subtitle D rules **do not** apply to existing units.

Multiple states still allow the continued vertical landfilling on unlined areas. None of the Federal regulations require a liner to be installed up the slope of an unlined area to the top of the abutment, as IDNR is requiring in these proposed rules. The proposed rules need to provide opportunities for existing landfills to continue completing their previously approved and permitted design until appropriate finished grades can be reached to provide for adequate slope and drainage before closure of the site.

- The requirement for a minimum slope of 20% to be allowed to abut and install a liner up an unlined area is too prescriptive. The requirements for abutting other waste slopes should be site-specific and based upon the engineer's design.
- Subrule 113.7(8) specifies requirements for run-on and run-off controls that are related to storm water permitting and plans. These proposed rules should be deleted and handled by the storm water rules.

Subrule 113.8 – Operating requirements

- 113.8(1) b. requires that leachate or gas condensate be placed in a MSWLF unit if it is designed with a composite liner. However, this is counter to the previously discussed proposed rules that will allow leachate recirculation on alternative-lined landfills. The rules need to be clarified and consistent with the other references.
- 113.8(2) and 113.8(3) describes the required disposal practices and facility operations and activities in detail. The proposed rules list very prescriptive operational activities that should be left to up to the landfill managers who are certified and more experienced in landfill operations than IDNR staff. Specific site conditions, weather issues, waste flow, staffing issues, etc all must be evaluated on a daily basis by the on-site manager and should not be dictated to by IDNR staff who are not experienced in landfill operations and are not on-site to understand what are the specific operational needs.

Most of the prescriptive listing of operational requirements are not likely to provide added protection to public health or the environment and will likely be subjectively evaluated by IDNR field office inspectors. For example, the requirement to minimize the tracking of mud. Will some inspectors require a tire-washing pit at the landfill? Will some require a paved access road? Will some require clean rock applied every time it rains? It is recommended that the rules be revised to be less prescriptive and that operational issues be left to the discretion of the landfill staff that knows the site's needs.

Subrule 113.10 – Monitoring and corrective action requirements

- Paragraph 113.10(2)a(2) implies that all landfills will need to have a point of compliance (POC). If so, will composite lined landfills be required to have a POC?
- Paragraph a.(3) requires groundwater under drain systems have a “maximum drainage area” not exceeding 10 acres. This should be based upon the engineer's design and site-specific considerations, not IDNR mandated.
- Portions of 113.10(2)e. require monitoring wells be “constructed with a maximum of 300 feet between” them. This exceeds federal Subtitle D rules that require the number and spacing to be determined based upon site-specific hydrogeologic data. IDNR has instead arbitrarily determined that all landfills must have wells every 300 feet. They have justified the need by comparing landfills to underground storage tanks and uncontrolled industrial sites. However, IDNR and the solid waste industry

state that lined landfills with less than one foot of leachate will not leak and cause contamination. What justifies the additional wells and related costs? IDNR in their response of February 16, 2007 provides only the cost for the additional wells and fails to address the additional cost for monitoring and analysis of these additional wells. The need for additional wells should be based upon the updated hydrogeologic study and site-specific needs.

- Subrule 113.10(3) paragraph b. requires “surface water levels must be measured monthly for the first year and thereafter at a frequency specified...within 1/10 of a foot ...” Iowa streams and creeks are typically seasonally and intermittent flowing, and subject to significant erosion, sediment deposition, and animal activity (especially beaver, cattle, horses, etc). None of the data collected based upon this proposed rule could be correlated to provide any useful information. At a minimum, only requiring flow estimates should be adequate to gauge the water volume without measuring to 1/10 of a foot.
- Proposed subrule 113.10(4) requires unfiltered monitoring samples. The past testing of all groundwater and surface water samples in Iowa has required the field filtering of metals. This was prudent because of the tendency for Iowa ground and surface water is highly turbid. Turbidity varies from well to well and surface point to surface point. Turbidity will also vary seasonally. Significant turbidity can be experienced in wells located in the Loess Hills due to the type of soils. To do a fair comparison during all seasons between all wells, field filtering and the analysis of dissolved metals will provide a truer picture of the actual water quality. IDNR should request that EPA allow the filtering of metals for all monitoring locations.
- Subrule 113.10(5) describes the proposed detection monitoring requirements. One parameter, the field monitoring for temperature, should be eliminated. It has no logical value and since the ambient air temperature and the timing of when the temperature is checked will affect the sample’s temperature, the temperature will vary. The temperature of surface water will vary with the depth of the surface locations, with the flow of the water, as well as seasonally. The requirement for testing the sample temperature should be deleted.
- The IDNR has proposed to begin requiring the sampling of all monitoring wells for Appendix I beginning with the spring 2008 sampling event. However, if additional wells will be required, it would be more logical and cost effective to wait until all the wells that will be required are installed. Instead the following sequence seems more appropriate:
 1. Require an updated “mini” hydrogeologic investigation to determine the number and locations of the additional wells.
 2. IDNR approve these updated hydros and the well locations.
 3. The wells are installed as required by the updated hydro.
 4. The new monitoring be conducted depending upon the final rule.

This approach will be more cost effective and allow for the comparison and statistical analysis of the groundwater when all the monitoring locations are sampled in the same time period.

- In 113.10(6), (assessment monitoring), IDNR requires that any significant statistical increase (SSI) of any testing parameter in Appendix I or the indicator parameters be the trigger for requiring Appendix II monitoring. This seems excessive considering that some of the indicator parameters are subject to other influences. Temperature was already discussed above. Chloride and pH can also have other factors influencing the results other than leachate from a landfill. The indicator parameters have no established limits and are subject to other unrelated influences. It is recommended the indicator monitoring be eliminated and only Appendix I analysis be required for initial analysis.
- Appendix II analysis should only be required when Appendix I analysis indicates an exceedance above the MCL or the HAL. To require landfills to meet standards more restrictive than those required for drinking water sources is excessive, unreasonable, and costly. Iowa has many of the required parameters naturally occurring in the soils (e.g. arsenic, iron, barium, magnesium, zinc, etc.) especially in disturbed soils (e.g. mining) where many landfills are sited. To expect the landfill monitoring wells to be cleaner than drinking water sources is unreasonable.
- In 113.10(8) a term is used multiple times by IDNR and because it may prove to be a contentious issue in the future, it would be appropriate that a definition for “practicable capability” be provided.
- It is recommended the IDNR rules also recognize the limitations that the assessment of corrective action [113.10(7)] and the selection of remedy rules [113.10(8)] will have for the unlined, pre-new rules units and landfilled areas. These pre-rule units may have contamination issues but were constructed and operated in accord with previous regulations and IDNR approval. In many situations, corrective measures and remedies will be technically unachievable and/or beyond what is economically reasonable.
- Paragraph 113.10(7)d requires a landfill to send notices to all adjacent property owners and to hold a public meeting to discuss corrective actions being considered. The proposed rules in 113.10(8)c(5) further require that “community concerns” be included in considering the potential remedies. The federal rules require notifying adjacent property owners only if contaminants have migrated off-site. Unless contamination does migrate off-site, involvement of the adjacent property owners should not be required.

113.12 Closure criteria

- IDNR current rules and the proposed rules in 113.12(1) require a final cover permeability of 10⁻⁷ cm/sec. Federal regulations indicate a permeability less than or equal to the bottom liner of 10⁻⁵ cm/sec. For lined units this may not be an issue.

However, for unlined areas, this can be a major concern. IDNR has indicated that the cost for implementing this more restrictive rule is minimal, however, that is not the case because for some locations where the less permeable soil is deeper (down to the glacial till) extensive excavation costs may be incurred. Even if available at the surface of a borrow area, additional compaction and additional passes over each cover lift will be required to achieve the lesser permeability. Contractors put an additional price on the project when more time and equipment passes are required to meet the permeability. The IDNR should adapt the requirements in the Federal regulations.

113.15 Variances

- This paragraph requires that a “variance ...shall not be granted unless they are clearly more protective than the applicable minimum federal standards.” Most states have accepted Federal regulations as being the minimum. Why must Iowa regulations exceed Federal and other states’ regulations and require Iowa landfills to be “clearly more protective”? Becoming more restrictive than Federal regulations puts an unnecessary cost and competitive disadvantage on Iowa landfills when compared to other states. Is that the goal of IDNR to drive all waste out of state to more cost competitive disposal sites?