ILLINOIS POLLUTION CONTROL BOARD
October 8, 2015

IN THE MATTER OF:	)	
	)	
PETITION OF SALINE COUNTY	)	AS 16-1
LANDFILL, INC. FOR AN ADJUSTED	)	(Adjusted Standard – Land)
STANDARD	)	

ORIGINAL

HEARING OFFICER ORDER

Saline County Landfill, Inc. (SCL), pursuant to Section 28.1 of the Illinois Environmental Protection Act (Act) (415 ILCS 5/28.1 (2014)), petitions the Board for an adjusted standard from provisions of 35 Ill. Adm. Code Part 811.Subpart C setting forth groundwater monitoring requirements for its landfill. SCL seeks relief due to background conditions caused by acid mine drainage from abandoned coal strip mines and upwelling of brine. The landfill is located approximately five miles southeast of Harrisburg in Saline County.

Pursuant to Section 28.1 of the Act, SCL arranged for notice of its petition to be published in *The Daily Register* on July 28, 2015. The Board has not received any request to hold a public hearing and petitioner does not request a hearing.

To aid analysis of the petition, SCL is directed to respond to the questions attached as Attachment A. The deadline for SCL to submit its responses to the Board is October 29, 2015. The Board asks that the Illinois Environmental Protection Agency submit any comments on the Board's questions or SCL's responses by November 12, 2015.

IT IS SO ORDERED.

Carol Webb

Carol Webb
Hearing Officer
Illinois Pollution Control Board
1021 North Grand Avenue East
P.O. Box 19274
Springfield, Illinois 62794-9274
217/524-8509
Carol.webb@illinois.gov

ATTACHMENT A
QUESTIONS FOR SALINE COUNTY LANDFILL, INC.
(AS 16-1)

The Board asks that Saline County Landfill, Inc. (SCL) respond to the following questions relating to its petition for an adjusted standard. SCL sequentially numbered its July 17, 2015 petition in the upper right corner of each page and the Board cites to the petition using these page numbers as "Pet. at __."

Detection Monitoring

1. SCL's proposed adjusted standard to 35 Ill. Adm. Code 811.319(a)(2)(A)(ii) deletes cadmium, magnesium, sulfate, total dissolved solids (TDS) and zinc from detection monitoring. Pet. at 297 (App. B). However, in the Adjusted Standard Technical Demonstration (ASTD), SCL states that constituents indicative of acid mine drainage are proposed to be retained as part of the monitoring program and identifies dissolved sulfate, TDS, specific conductance, dissolved magnesium, iron and manganese. Pet. at 142; *see also* Pet. at 48, 95 (Table 4). The Illinois Environmental Protection Agency (IEPA) recommends that ammonia, barium, magnesium, sulfate, TDS, and zinc be retained in the detection monitoring list. IEPA Recommendation (Rec.) at 14-16. Comment on whether the following language reflects SCL's request for an adjusted standard as to Section 811.319(a)(2)(A)(ii).

   In lieu of 35 Ill. Adm. Code 811.319(a)(2)(A)(ii), SCL must monitor for the following list of constituents:

   Ammonia – Nitrogen (dissolved)
   Arsenic (dissolved)
   Barium (total)
   Bicarbonate Alkalinity (dissolved)
   Boron (dissolved)
   Chloride (dissolved)
   Chromium (dissolved)
   Cyanide (total)
   Lead (dissolved)
   Magnesium (dissolved)
   Mercury (dissolved)
   Nitrate (dissolved)
   Potassium (total)
   Sodium (total)
   Sulfate (dissolved)
   Total Dissolved Solids (TDS)
   Zinc (dissolved)

2. SCL proposes that pH and specific conductance will be monitored as field parameters. Pet. at 48. SCL, in a September 21, 2015 filing with the Board, states that it is not

pursuing an adjusted standard as to specific conductance at this time. Confirm that SCL intends that these field monitoring parameters will be addressed with IEPA, such as through permit conditions, and not as an adjusted standard ordered by the Board.

3. SCL's proposed adjusted standard includes a change to Section 811.319(a)(2)(A)(i) requiring a constituent to be monitored if it "appears in, or is expected to be in, the leachate at concentrations which are greater than the groundwater." Pet. at 297 (App. B). According to the ASTD, some constituents, including magnesium, sulfate and zinc, are present in leachate at lower concentrations than in groundwater. Pet. at 135-137. Comment on whether SCL's proposed adjusted standard to Section 811.319(a)(2)(A)(i) creates a conflict between that regulation and the proposed detection monitoring list.

4. SCL states that based upon discussions with IEPA, several constituents are proposed to be retained for detection monitoring for trend analyses but exempted from the statistical analysis requirements. Pet. at 142. IEPA recommends that ammonia, chloride, magnesium, sulfate, TDS, and zinc be retained in the detection monitoring list at Section 811.319(a)(2)(A)(ii), and chloride, iron, manganese and zinc be retained for assessment monitoring under Section 811.319(b) only for purposes of trend analysis required in Permit Condition VIII.l3(a), but be exempted from statistical analysis required by Permit Condition VIII.l3 (b, d and e). Rec. at 14-16.

   a. Clarify whether permit conditions VIII.13(a, b, and d) implement Sections 811.319 (a)(4)(A)(i), (a)(4)(A)(ii), and (a)(4)(A)(iv), respectively.

   b. Identify the rule language in Appendix B of the petition that exempts the above listed constituents from Sections 811.319(a)(4)(A)(ii) and (a)(4)(A)(iv), and subjects them to only trend analysis under (a)(4)(A)(i).

5. Comment on whether the following language reflects SCL's request for an adjusted standard as to constituents subject only to trend analysis.

   In lieu of 35 Ill. Adm. Code 811.319(a)(4)(A)(ii) and (a)(4)(A)(iv), SCL must institute confirmation procedures for observed increases only as to the following constituents:

   Ammonia (dissolved)
   Arsenic (dissolved
   Chloride (dissolved and total)
   Chromium (dissolved)
   Iron (dissolved and total)
   Magnesium (dissolved)
   Manganese (dissolved and total)
   Sulfate (dissolved)
   Total Dissolved Solids (TDS)
   Zinc (dissolved)

6. Permit condition VIII.13(e) addresses exceedance of the intrawell applicable groundwater quality standard at an established monitoring point. Pet. at 511.

   a. Identify the specific provision in Part 811 implemented by this permit condition.

   b. Does SCL's proposed adjusted standard in Appendix B of the petition include specific language that exempts constituents from the regulatory provision implemented by Permit Condition VIII.13(e)?

   c. Propose adjusted standard language that reflects SCL's requested relief. Note that the Board may grant relief from a Board regulation but is not authorized to grant an adjusted standard from existing permit conditions.

7. IEPA recommends that ammonia, chloride, iron, magnesium, manganese, sulfate, TDS, and zinc be retained for detection and assessment monitoring for purposes of trend analysis only. Comment on whether the confirmation procedures under Section 811.319(a)(4)(B), including alternate source demonstration and assessment monitoring, apply when monitored constituents show progressive increase over eight consecutive monitoring events in accordance with Section 811.319(a)(4)(A)(i). Also clarify whether these constituents would be subject to applicable groundwater quality standards at the edge of the zone of attenuation.

Assessment Monitoring

8. The proposed adjusted standard to the assessment monitoring requirement at Section 811.319(b)(5)(E) allows the petitioner to request that IEPA delete any constituent listed in 40 CFR 258.Appendix II or 35 Ill. Adm. Code 620.410 by demonstrating that the deleted constituent is not contained in the leachate at concentrations that are discernable from background groundwater quality. Pet. at 304 (App. B). According to the ASTD, SCL proposes to remove constituents from assessment monitoring. Pet. at 131, 139-140; *see also* Pet. at 49. Confirm that SCL proposes that the following constituents not be monitored under Section 811.319(b)(5)(E):

   Antimony (total)
   Cadmium (total)
   Cobalt (total)
   Copper (total)
   Nickel (total)
   Silver (total)
   Selenium (total)
   Thallium (total)

9. Instead of SCL's proposed adjusted standard from Sections 811.319(b)(5)(D) and (E), comment on whether the following language reflects SCL's request for an adjusted standard to allow the deletion of constituents from assessment monitoring.

In lieu of 35 Ill. Adm. Code 811.319(b)(5)(D), SCL will comply with the following:

Within 90 days after the initial monitoring in accordance with subsection (b)(5)(A) of this Section, the owner or operator must monitor for the detected constituents listed in appendix II to 40 CFR 258, incorporated by reference in 35 Ill. Adm. Code 810.104, and 35 Ill. Adm. Code 620.410 on a semiannual basis during the assessment monitoring. The operator must monitor all the constituents listed in appendix II to 40 CFR 258 and 35 Ill. Adm. Code 620.410 on an annual basis during assessment monitoring, except for the following constituents:

Antimony (total)
Cadmium (total)
Cobalt (total)
Copper (total)
Nickel (total)
Silver (total)
Selenium (total)
Thallium (total)

10. As to the assessment monitoring requirement at 35 Ill. Adm. Code 811.319(b)(5)(G), comment on whether the following language reflects SCL's request for an adjusted standard.

> In lieu of 35 Ill. Adm. Code 811.319(b)(5)(G), SCL must comply with the following:
>
> If the concentrations of all constituents in appendix II to 40 CFR 258, incorporated by reference in 35 Ill. Adm. Code 810.104, and 35 Ill. Adm. Code 620.410, as modified in this adjusted standard are shown to be at or below background values, using the statistical procedures in Section 811.320(e), for two consecutive sampling events, the owner or operator must notify the Agency of this finding and may stop monitoring the constituents.

11. Clarify whether the constituents SCL proposes to remove from assessment monitoring are currently required to be monitored either on a semiannual or annual basis in accordance with Section 811.319(b)(5)(D) because they are listed in either 40 C.F.R. § 258.Appendix II or 35 Ill. Adm. Code 620.410. Clarify whether SCL intends that these constituents not be monitored either annually or semi-annually under the adjusted standard.

12. As to arsenic (dissolved), the ASTD states, "leachate concentrations tend to be substantially elevated relative to the groundwater concentrations, making the constituent an appropriate indicator constituent for detection and/or assessment monitoring." Pet. at 130. IEPA recommends that dissolved arsenic be included in detection monitoring but does not address assessment monitoring. Rec. at 9. Clarify whether dissolved arsenic

currently is included in assessment monitoring. Comment on whether it is SCL's intent to include dissolved arsenic in the assessment monitoring list.

13. As to chloride (total), SCL notes that chloride concentrations may act as a good indicator of potential leachate impacts and includes dissolved chloride in the proposed detection monitoring list. Pet. at 131-132. IEPA recommends that both dissolved and total chloride be included in the detection monitoring list and total chloride be retained as a part of assessment monitoring. Rec. at 13. Comment on whether total chloride should be included on the assessment monitoring list.

14. As to chromium (total), SCL states that dissolved chromium is proposed to be retained in the detection monitoring list because leachate concentrations are several hundred percent greater on average than the groundwater concentrations. Pet. at 133. IEPA recommends that total chromium be retained for both detection and assessment monitoring. Comment on whether total chromium should be included on the assessment monitoring list.

15. As to potassium (total and dissolved), SCL states that total potassium should be included in the detection monitoring list, but it does not mention if that constituent should be also included for assessment monitoring. Pet. at 141. However, IEPA recommends that total potassium be retained for assessment monitoring. Rec. at 23. Comment on whether total potassium should be included on the assessment monitoring list.

16. As to sodium (total), SCL proposes including total sodium in detection monitoring due to elevated leachate concentrations and relative insensitivity to the effects of acid mine drainage. However, SCL does not address whether total sodium should be included in assessment monitoring. Pet. at 141. IEPA recommends including sodium in assessment monitoring. Rec. 23-24. Comment on whether sodium should be included on the assessment monitoring list.

17. Provide the list of constituents SCL proposes to include in assessment monitoring.

18. SCL states, based on comments from IEPA, that iron, manganese, and zinc will be retained in the assessment monitoring list but would be exempt from the statistical analysis requirements of permit conditions VIII.13(b, d, and e). Pet. at 49. Similar to Question 4, does SCL's proposed adjusted standard language in Appendix B of the petition include specific language that exempts constituents from statistical analysis? Propose adjusted standard language such as Question 5 above.

Groundwater Quality Standards & Groundwater Protection Standards

19. SCL proposes adjusted groundwater quality standards of 15 mg/L for dissolved and total ammonia and 200 mg/L for dissolved and total chloride. Pet. at 49. In a filing on September 21, 2015, SCL confirmed that it is not pursuing an adjusted standard as to total ammonia. Clarify whether SCL's proposed adjusted groundwater quality standards as to ammonia and chloride are contained in the adjusted standard rule language in Appendix B to the petition.

20. Comment on whether the following language reflects SCL's request for an adjusted groundwater quality standard as to ammonia and chloride.

> In lieu of 35 Ill. Adm. Code 811.320(a), SCL must meet the following groundwater quality standards at and beyond the zone of attenuation:
>
> | | |
> |---|---|
> | Ammonia (dissolved) | 15 mg/L |
> | Chloride (dissolved and total) | 200 mg/L |

21. As required by 35 Ill. Adm. Code 811.320(a)(1)(B) and 811.320(b)(4), provide SCL's justification for the relief requested as to ammonia and chloride.

22. SCL identifies proposed groundwater quality standards for "indicator constituents" which is also the list of proposed constituents for detection monitoring (see Question 1 above). Pet. at 52.

    a. Describe what SCL means by the phrase "indicator constituents."

    b. Clarify whether SCL proposes an adjusted groundwater quality standard for these indicator constituents as set forth on page 52 of the petition. Provide the basis for any such request as required by 35 Ill. Adm. Code 811.320(a)(1)(B) and 811.320(b)(4).

    c. Propose adjusted standard language consistent with the format in Question 20 above.

23. SCL appears to take the position that constituents exempt from statistical analysis are not subject to groundwater quality standards. Pet. at 52. Explain how constituents exempt from statistical analyses would be evaluated if they are not subject to groundwater quality standards. Comment on whether the confirmation procedures under Section 811.319(a)(4)(B), including alternate source demonstration and assessment monitoring, would apply if monitored constituents show progressive increase over eight consecutive monitoring events in accordance with Section 811.319(a)(4)(A)(i).

24. Comment on whether the constituents proposed to be exempt from statistical analyses should be subject to adjusted groundwater quality standards based on Class I groundwater standards. Propose adjusted standard language consistent with the format in Question 20 above. Or, explain the rationale for not including groundwater quality standards for the constituents.

25. SCL proposes an adjusted standard to groundwater quality standards at Section 811.320 to allow the development of a new concept SCL entitles "groundwater protection standards (GPS)" which would be the trigger to determine when groundwater quality variations require corrective action. Pet. at 63, 307-314 (App. B). SCL explains that site specific conditions "confound the development of representative background

groundwater quality standards." Pet. at 63. Clarify whether SCL's proposed GPS for detection monitoring constituents in Tables 5 and 6 (Pet. at 96-105) are the same as applicable groundwater quality standards based on currently permitted background levels. Identify all constituents for which the proposed GPS is not currently permitted background levels.

26. Comment on whether adjusted groundwater quality standards can be used as triggers for groundwater evaluation. Address whether adjusted groundwater quality standards can be used for all detection monitoring constituents outside the zone of attenuation. Address whether adjusted groundwater quality standards can be used for constituents impacted by acid mine drainage within the zone of attenuation instead of maximum achievable predicted concentrations.

27. For pesticides and organic constituents listed in petition Tables 5 and 6, SCL proposes groundwater standards based on Class I groundwater quality standards (35 Ill. Adm. Code 620.410), background levels (Section 811.320), and practical quantitation levels (PQL). Pet. at 96-105. SCL argues that it proposes its new concept of groundwater protection standards (GPS) to resolve what SCL describes as a conflict between remedial objectives based on non-degradation (background) standards (Section 811.320) and risk-based objectives under Sections 811.325(e) and (f). Pet. at 79.

    a. Section 811.325(b) requires corrective action to be protective of human health and the environment, as well as attain background groundwater quality standards. To the extent SCL proposes background levels as GPS for certain constituents, explain why SCL proposes an alternate groundwater protection standards if the background groundwater quality standard is itself protective of human health and the environment.

    b. If the background groundwater quality standard is less stringent than an alternate standard protective of human health and the environment, comment on whether the remediation standard would still be the background groundwater quality.

    c. Section 811.320(e)(3) allows use of the practical quantitation limit (PQL) defined as the lowest concentration that is protective of human health and the environment that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions. Explain why SCL proposes groundwater protection standards for several constituents based on Class I groundwater quality standards instead of PQL.

    d. Clarify whether SCL's proposed groundwater protection standards for pesticides and organic constituents would be considered as groundwater quality standards at or beyond the zone of attenuation. If so, propose adjusted groundwater quality standards for constituents for which the groundwater quality standard is not based on background or PQL consistent with 35 Ill. Adm. Code 811.320(a)(1)(B) and 811.320(b)(4). Propose adjusted standard language consistent with the format in Question 20 above.

28. Provide a table of the constituents SCL proposes to include on the detection monitoring list and each constituent's proposed numeric groundwater protection standard. Comment on whether an adjusted standard using this list resolves SCL's concerns as to setting an alternative trigger for corrective action for those constituents impacted by acid mine drainage and upwelling of brine.

29. In its petition, SCL states "GPS values may require periodic modification due to changes in regulations . . . and/or changes in the analytical testing program or changes in permitted background concentrations." Pet. at 64. Identify each of the constituents on the list in the above question which may require periodic modification to the numerical trigger for corrective action and explain why SCL anticipates periodic modification to the groundwater protection standard for that constituent.

30. Explain why SCL proposes to develop groundwater protection standards as the trigger for corrective action rather than seeking adjusted groundwater quality standards as provided for in Section 811.320(a)(1)(B) and (b).

31. IEPA explains that it uses background groundwater quality to determine pollutant concentrations triggering corrective action. Rec. at 27. IEPA acknowledges that 35 Ill. Adm. Code 811.325(e) allows IEPA to determine that remediation is not necessary in certain circumstances. Rec. at 27. For example, remediation is not necessary when groundwater is contaminated by another source and corrective action by the landfill would provide no significant reduction in risk to actual or potential receptors. 35 Ill. Adm. Code 811.325(e)(1). Comment on whether SCL believes the concerns raised in its petition could have been addressed under Section 811.325(e) and whether SCL views Section 811.325(e) as applicable to its situation.

32. Comment on whether the following language reflects SCL's request for an adjusted standard as to the regulatory provisions identified. In commenting on this language, assume that the phrase "adjusted groundwater quality standard" is a numerical standard set forth in the format of Question 20.

    a. In lieu of 35 Ill. Adm. Code 811.319(b)(3), SCL must comply with the following:

       If the analysis of the assessment monitoring data shows that the concentration of one or more constituents, monitored at or beyond the zone of attenuation is above the applicable groundwater quality standards or adjusted groundwater quality standard and is attributable to the solid waste disposal facility, then SCL must determine the nature and extent of the groundwater contamination and must implement the remedial action in accordance with Section 811.319(d).

    b. In lieu of 35 Ill. Adm. Code 811.319(b)(4), SCL must comply with the following:

       If the analysis of the assessment monitoring data shows that the concentration of one or more constituents is attributable to the solid waste disposal facility and

exceeds the maximum allowable predicted concentration or adjusted groundwater quality standard within the zone of attenuation, then SCL must conduct a groundwater impact assessment in accordance with the requirements of Section 811.319(c).

c. In lieu of 35 Ill. Adm. Code 811.319(c), SCL must comply with the following:

If required to conduct a groundwater impact assessment in accordance with this adjusted standard, SCL must assess the potential impacts outside the zone of attenuation that may result from confirmed increases above the maximum allowable predicted concentration or adjusted groundwater quality standards within the zone of attenuation, attributable to the facility, in order to determine if there is need for remedial action. In addition to the requirements of Section 811.317, the following requirements apply:

1) SCL must utilize any new information developed since the initial assessment and information from the detection and assessment monitoring programs and such information may be used for the recalibration of the GCT model; and

2) SCL must submit the groundwater impact assessment and any proposed remedial action plans determined necessary pursuant to Section 811.319(d) to the Agency within 180 days after the start of the assessment monitoring program.

d. In lieu of 35 Ill. Adm. Code 811.319(d)(1)(B), SCL must comply with the following:

Any confirmed increase above the applicable groundwater quality standards of Section 811.320 or the adjusted groundwater quality standards is determined to be attributable to the solid waste disposal facility in accordance with Section 811.319(b) of this Section.

e. In lieu of 35 Ill. Adm. Code 811.319(d)(3)(B), SCL must comply with the following:

Establishing that a violation of an applicable groundwater quality standard of Section 811.320 or an adjusted groundwater quality standard is attributable to the solid waste disposal facility in accordance with Section 811.319(b)(3).

f. In lieu of 35 Ill. Adm. Code 811.319(d)(5)(A), SCL must comply with the following:

The remedial action program must continue in accordance with the plan until monitoring shows that the concentrations of all monitored constituents are below the maximum allowable predicted concentrations or adjusted groundwater quality

standards within the zone of attenuation, below the applicable groundwater quality standards of Section 811.320 or adjusted groundwater quality standards at or beyond the zone of attenuation, over a period of four consecutive quarters no longer exist.

Adjusted Standard Conditions

33. While the petition is brought under Section 28.1 of the Act authorizing the Board to grant an adjusted standard, the requested relief is styled as a site-specific rule. Pet. App. B. The petition essentially seeks alternate lists of parameters for groundwater monitoring purposes as well as alternate groundwater quality standards used to determine whether corrective action is necessary. Accordingly, it appears that the requested relief should not be structured as line edits to existing rule language. Propose a complete list of adjusted standard conditions, including any conditions pulled from the questions above.

CERTIFICATE OF SERVICE

It is hereby certified that true copies of the foregoing order were mailed, first class, on October 8, 2015, to each of the persons on the attached service list.

It is hereby certified that a true copy of the foregoing order was hand delivered to the following on October 8, 2015:

John T. Therriault
Illinois Pollution Control Board
James R. Thompson Center
100 W. Randolph St., Ste. 11-500
Chicago, Illinois 60601

Carol Webb

Carol Webb
Hearing Officer
Illinois Pollution Control Board
1021 North Grand Avenue East
P.O. Box 19274
Springfield, Illinois 62794-9274
217/524-8509
Carol.Webb@illinois.gov

SERVICE LIST

AS 2016-001
James Kropid
IEPA
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

AS 2016-001
Brian Konzen
Lueders, Robertson & Konzen
1939 Delmar
P.O. Box 735
Granite City, IL 62040