



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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JUL 01 2022

Honorable Leon Rockingham, Jr.
Mayor, City of North Chicago
1850 Lewis Avenue
North Chicago, Illinois 60064

Re: 0971250007 -- Lake County
North Chicago/North Chicago, City of
ILD097271563
Log No.: C-656-M-25
Received on: May 9, 2022
RCRA Closure

Dear Mayor Rockingham, Jr.:

This in response to your May 5, 2022 letter, received by Illinois EPA on May 9, 2022, associated with the former R. Lavin & Sons/North Chicago Refiners & Smelters site (Former Lavin Site), located at 2028 Sheridan Road, North Chicago in Lake County, Illinois, which is now owned by the City of North Chicago (the City). This letter included a request to terminate the required RCRA Post-Closure Care for the entire 17.6-acre of the Former Lavin Site which was closed as a hazardous waste landfill.

The initial RCRA Closure/Post-closure Plan (C-656) was first approved on November 4, 1992 for the subject former smelter site. The closure certification of the entire 17.6-acre site as a RCRA hazardous landfill was approved on July 29, 1999, and the post-closure care was required to be conducted until at least March 31, 2022. The closure/post-closure plan was last modified on September 1, 2015.

Your May 5, 2022 letter contained a one-page cover letter requesting Illinois EPA to terminate the post-closure care at the subject site, a signed LPC-PA18 Form, and information (referred to as Attachment 1) containing recent post closure groundwater monitoring data at the subject site.

Illinois EPA reviewed your request to terminate the post-closure care for the entire 17.6-acre site and determined that your request cannot be approved as the City has not met the conditions of the approved closure/post-closure plan and the requirements of 35 Ill. Adm. Code Sections 725.217, 725.218, 725.220, and 725.410(b) for the post-closure care of the subject Former Lavin Site for the reasons described in the conditions below:

1. Exceedances of the 35 Ill. Adm. Code Part 620, Class I, Groundwater Quality Standards (GQS) for Lead have been detected within the last three years of groundwater monitoring. During the 4th quarter 2020 sampling event, exceedances of Lead were

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detected in monitoring wells MW2D and MW3D at 0.009 mg/L and 0.064 mg/L, respectively. Lead was again detected in the 2nd quarter 2021 sampling event in monitoring well MW9D and also in the duplicate sample from this well at 0.02 mg/L and 0.016 mg/L, respectively. The 35 Ill. Adm. Code Part 620 Class I, GQS for Lead is 0.0075 mg/L.

2. As required by Attachment A, Condition 3 of the Illinois EPA's June 10, 2014 letter (Log No. C-656-M-20 and 22), total (unfiltered) values shall be compared to 35 Ill. Adm. Code Part 620, Class I, GQS in order to identify unacceptable exceedances of hazardous waste constituents present in fill material at the facility. The City compared dissolved (filtered) to 35 Ill. Adm. Code Part 620, Class I, GQS, which is not appropriate and did not meet this requirement.
3. The City did not submit the 4th quarter 2021 Groundwater Monitoring Report, required by Attachment A of the Illinois EPA's June 10, 2014 letter (Log No. C-656-M-20 and 22). A review of the Illinois EPA files indicates that this Report has yet to be submitted. The facility must submit the 4th quarter 2021 Groundwater Monitoring Report.
4. Water in MW6S demonstrated that leachate is present in the landfill. Water present in the fill layer is considered leachate. This leachate has the potential to release hazardous constituents to the uppermost aquifer and to off-site areas because the landfill is not lined. Terminating post-closure care would not meet the closure requirements at 35 Ill. Adm. Code Sections 725.211 or 725.410(a) because the facility has not demonstrated the long-term minimization of migration of liquids through the closed landfill.

The presence of liquids in a landfill is a significant concern for a landfill's long-term management. Liquids in a landfill are a primary means by which hazardous constituents in the waste can become mobilized and leave the landfill. For example, with the settlement, surface depressions, and water accumulation observed by the Illinois EPA during its March 30, 2022 field inspection, it is likely that surface water is seeping into the hazardous fill materials beneath the cover. Furthermore, any water in contact with the hazardous fill materials is potentially migrating along the existing sewer lines with the potential to migrate to off-site areas.

5. Monitoring from one shallow well (MW6S) is not sufficient to be representative of the current conditions within and beneath the hazardous waste landfill. All on-site shallow wells must be measured for water elevation and samples must be collected and analyzed for the parameters in 35 Ill. Adm. Code Part 724, Appendix I, to determine the potential for hazardous constituents migrating towards the uppermost aquifer or through the sides of the landfill.
6. In accordance with Condition 10 of the Illinois EPA's July 3, 2012 letter (Log No. C-656-M-17&18), the City was required to submit a plan to establish a Final Protective Layer over the Final Cover (i.e., three-foot compacted silty-clay) approved in the closure plan letter if the previously proposed redevelopment did not begin by April 1, 2014. The

development did not occur, and no such plan for the Final Protective Layer has been submitted to Illinois EPA. Therefore, the landfill has not been closed in accordance with the approved closure plan because the construction of the cover system has not been completed.

7. During the Illinois EPA's March 30, 2022 RCRA Site inspection, Illinois EPA observed: (1) at least one depression with standing water surrounding 2 monitoring wells; (2) signs of settling in several areas of the final cover; and (3) signs of erosion of the final cover. Illinois EPA's observations of these areas indicate that appropriate action has not been taken to correct these ongoing problems. Therefore, the landfill has not been maintained and cared for in accordance with the approved closure/post-closure plan.
8. The City is required to carry out the post-closure activities identified in the April 12, 1999 submittal made by Mr. Ronald E. Hutches as modified in the July 3, 2012 Illinois approval letter. In addition to the Conditions above, the City has not met the following post-closure care requirements:
 - a. A Professional Engineer (PE) must conduct a yearly annual inspection of the site in addition to monthly inspections as addressed in Condition 8(c) below. This annual inspection is to check for surface cracks, depressions, settlements, erosion problems, and any other anomaly. The results of the yearly inspection must be documented in a report and submitted to the Illinois EPA by February 1 of the following year for its review. This information has not been submitted for this facility since 2001.
 - b. Any stormwater collected and managed to be discharged off-site (i.e. out of the boundary of the site) through Pond 1 and the existing sewer system at the site must be managed in accordance with a NPDES permit as required in the post-closure plan for the site. Pond 2 was previously approved to be filled during the final cover improvement activities in approximately 2010 while Pond 1 is still in operation as the stormwater run-off collection system. The City has not demonstrated the compliance with this requirement since the City acquired the facility in 2006. As an alternative, the City may demonstrate that this requirement is no longer applicable.
 - c. Monthly inspection logs and any inspection after 1-inch of rain over a 24-hour period must be conducted at the site. Any repair to correct the issues discovered during these frequent inspections and the yearly inspection in Condition 8 (a) above must be documented and recorded. In accordance with 35 Ill. Adm. Code 725.173(b)(6), the facility is required to maintain and keep the documentation of the inspection for at least 3 years. Compliance with this requirement was not discussed or demonstrated in the subject submittal.

9. As indicated in Condition 8(b) above, any storm water and subsurface water leaving the site must be managed in accordance with the facility's NPDES permit at the site. It is unknown if the City has a permit for the site to discharge the specific runoff and leachate to the City's sewer system at this time, especially after the final cover improvement was approved on September 10, 2010 (Log No. C-656-M-15). Information and documentation that the City is in compliance with this condition has not been provided to Illinois EPA.
10. The LPC-PA18 form for the subject submittal was incomplete as "Unit Undergoing Closure" is blank and was not identified. As the entire 17.6-acre was closed as a hazardous waste landfill, the unit closed must be identified as a landfill.
11. In accordance with 35 Ill. Adm. Code Section 725.220, a certification of completion of Post-Closure care signed by the owner/operator and a qualified PE must be submitted to the Illinois EPA. Such certification must clearly indicate that the entire post-closure care for the site was performed in accordance with the specifications in the approved post-closure plan. The qualified PE must be able to provide all necessary documentation and certify that, during the entire period of the post-closure care, all required post-closure care activities were conducted in accordance with the approved post-closure plan at the subject hazardous waste landfill. The only certification provided was the LPC-PA18 Form, which does not satisfy the requirements of 35 Ill. Adm. Code Section 725.220.
12. As required in the approved closure/post-closure plan, the City must provide financial assurance to meet the requirements of 35 Ill. Adm. Code Part 725, Subpart H for the post-closure care of the subject site. The Illinois EPA's record indicates that financial assurance has not been provided to the Illinois EPA to meet this requirement in the recent years. The most current approved amount of financial assurance for the post-closure care is for at least \$347,618.78.

In addition to the non-compliance with the above requirements, Illinois EPA has determined that the post-closure care at the site should not be terminated for the following additional reasons:

13. Illinois EPA observed several apparent violations at the site during its March 30, 2022 site inspection. These apparent violations are documented and sent to the City in a letter dated June 27, 2022.
14. Water collected from monitoring well MW6S and other shallow wells must be further investigated. The source of water within the fill must be evaluated to determine if the water observed and collected from shallow wells is from lateral migration or from infiltration through the landfill cover.
15. USEPA's "Guidelines for Evaluating the Post-Closure Care Period for Hazardous Waste Disposal Facilities under Subtitle C of RCRA", dated December 15, 2016 (2016 USEPA Guidance) provides a number of criteria that should be considered when determining if post-closure care should be extended. Application of this guidance to the conditions at

the site provides additional basis for a determination that post-closure care should be extended at the facility. The following are some of the minimum criteria to be considered in accordance with the 2016 USEPA guidance and how they relate to the conditions at the site:

- a. Nature of waste in the unit. The waste at the site includes characteristically hazardous lead as well as high levels of cadmium and polychlorinated biphenyls (PCBs). The waste was not pre-treated to meet the Land Disposal Restrictions (LDRs) for hazardous waste prior to the closure as a landfill.
- b. Design of the Unit: There is no engineered bottom liner or side liner to the landfill to prevent waste or contaminated leachate from migrating off-site. In addition, there are a number of storm drains on the surface of the landfill that drain to an underground stormwater sewer system. Mr. Deigan (consultant for the City) stated that the sewer system has been there since the smelter was in operation. The design of the sewer system is not described in the closure post-closure plan, but it is clear that it is located within and possibly below the waste. The location of sewer lines within a hazardous waste landfill provides a pathway for water to enter into the waste, and for contaminated leachate to migrate out of the waste and ultimately off-site. The post-closure monitoring of the landfill currently does not consider the potential migration of wastes and hazardous constituents through the side walls or along the storm sewer system.
- c. Leachate: The 2016 USEPA Guidance suggests that monitoring for leachate generation serves as the most effective way of examining the integrity of the waste management unit. As mentioned in Condition 4, water in the fill layer is considered leachate and the presence of water in the shallow monitoring wells must be evaluated. Also, whether the stormwater pond located at the east end of the landfill may be hydrogeologically connected to the shallow groundwater (i.e., leachate) should be evaluated to determine if the stormwater pond is collecting the shallow groundwater/leachate from the fill or the stormwater maybe entering the fill materials from this area.
- d. Groundwater: As indicated in Conditions 1 through 5 and 13, additional evaluation must be conducted for groundwater. As the 2016 USEPA Guidance points out, it is important that groundwater analytical results, the adequacy and reliability of the groundwater-monitoring network, groundwater-monitoring well integrity, and reasonable current or future exposure be evaluated before the post-closure care period ends.
- e. Siting & Site Hydrogeology: The City of North Chicago site's location characteristics, proximity to vulnerable areas such as residential/Environmental Justice (EJ) areas and surface water sources nearby must be evaluated for this site. The reasonably anticipated future land use of the facility and surrounding properties are also relevant. Location in potentially vulnerable areas increases the likelihood and potential severity of contaminant release.

- f. Facility History: This criterion is to evaluate if the waste management unit during post-closure care has been adequately managed to prevent releases of contaminants to the environment. Conditions in this letter list several concerns regarding the management of this site.
- g. Integrity of Cover System: A viable cover is one of the most important mechanisms in preventing leachate generation and, ultimately, releases of contaminants. Given the results of the recent Illinois EPA Field Operation Section (FOS) inspection, this criterion has not been met at the site.
- h. Long Term Care: Establishment and maintenance of physical and legal controls are necessary to prevent unacceptable exposure to hazardous waste or contaminated environmental media left in place. No long-term restrictions of future land use nor maintenance requirements to minimize future exposure to hazardous fill material beneath the cover are proposed for the site.

Due to the reasons listed in Conditions 1 through 15 above, Illinois EPA has determined that the request to terminate post-closure care cannot be granted and that the post-closure care period at the Former Lavin site must be extended to address current and future environmental concerns identified in this letter in accordance with 35 Ill. Adm. Code 725.218(g)(2). Therefore, the following actions need to be taken:

- A. In accordance with 35 Ill. Adm. Code 725.218(g)(2)(A), the Illinois EPA's decision to extend the post-closure care period for the subject site will be publicly noticed through a newspaper and made available for public comment within thirty (30) days after the date of this letter by Illinois EPA. Illinois EPA will issue a final determination after the comment period ends and, if necessary, a public hearing is held.
- B. In accordance with 35 Ill. Adm. Code 725.245 (h), this letter shall constitute a notification to the City that Illinois EPA has determined that extending the post-closure care period at the Former Lavin site is required. Thus, within 35-days of the date of this letter, the City must provide the Illinois EPA with an acceptable financial assurance in the amount of \$347,618.78 for the post-closure care of the site to meet the requirements of 35 Ill. Adm. Code Part 725, Subpart H.
- C. Within sixty (60) days of the date of the Illinois EPA's final determination to extend the post-closure care period as described in Condition A above, the City must submit a Closure/Post closure modification request to provide the following information and a plan to:
 - (1) Extend the post-closure care for the site;
 - (2) Address and meet the requirements of the approved post-closure plan;
 - (3) Describe how each Condition in this letter is or will be addressed;

- (4) Provide an updated survey the facility to determine the current vertical and horizontal dimensions. Such survey data must then be compared to the previous survey data completed after the completion of the final cover upgrade, which was approved in 2012, to determine if any settlement and erosion of the final cover has occurred and if the current final cover is 3-foot thick as required in accordance with the approved closure/post-closure plan.
 - (5) Provide a schedule for all action items included in such plan;
 - (6) Provide a revised cost estimate for the post-closure care for the 17.6-acre site; and
 - (7) Address and correct the apparent violations from the Illinois EPA's March 30, 2022 Site Inspection in the aforementioned Illinois EPA FOS letter.
- D. In accordance with 35 Ill. Adm. Code 703.121 (b) and the 2016 USEPA Guidance, the City shall address the future post-closure care and long-term stewardship for the subject site under a RCRA Post-Closure Care Permit to comply with the applicable RCRA regulations and avoid future non-compliance issues. As stated in Condition 16 of Illinois EPA's July 3, 2012, letter, and pursuant to 35 Ill. Adm. Code 703.121, a facility under post-closure care requirements of a hazardous waste landfill must obtain a RCRA permit or an enforceable document. RCRA Closure of this site was initially required though a Consent Order (90-CH-668, signed 10/12/1990, which was revised in 1997). However, the Consent Order was terminated on September 28, 2000, shortly after the post-closure care plan was approved in 1999, and since then the facility has been conducting post-closure of the hazardous waste landfill without a RCRA permit or an enforceable document. Therefore, a RCRA Permit is required. A plan and schedule to submit a RCRA Post-Closure Care Permit Application to Illinois EPA must be included in the required closure/post-closure modification request in Condition C above.
- E. In accordance with 35 Ill. Adm. Code 725.218(g)(2)(A), the Illinois EPA's decision to extend the post-closure care period for the subject site must be publicly noticed through a newspaper and made available for public comment within thirty (30) days after the date of this letter.

This action shall constitute Illinois EPA's final action on the subject submittal. The applicant may appeal this final decision to the Illinois Pollution Control Board pursuant to Section 40 of the Act by filing a petition for a hearing within thirty-five (35) days after the date of issuance of the final decision. However, the 35-day period may be extended for a period of time not to exceed ninety (90) days by written notice from the applicant and the Illinois EPA within the initial 35-day appeal period. If the owner or operator wishes to receive a 90-day extension, a written request that includes a statement of the date the final decision was received, along with a copy of this decision, must be sent to the Illinois EPA as soon as possible.

Mayor Rockingham, Jr.
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For information regarding the request for an extension, please contact:

Illinois Environmental Protection Agency
Division of Legal Counsel
1021 North Grand Avenue East
Post Office Box 19276
Springfield, IL 62794-9276
217/782 5544

For information regarding the filing of an appeal, please contact:

Illinois Pollution Control Board, Clerk
State of Illinois Center
100 West Randolph Street, Suite 11 500
Chicago, IL 60601
312/814 3620

Work required by this letter, your submittal or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. This letter does not relieve anyone from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

If you have any questions regarding the groundwater related aspects of this project, please contact Paula Stine at 217/557-8770. Questions regarding other aspects of this project should be directed to Takako Halteman, P.E. at 217/524-3274.

Sincerely,



W. Robert Watson, P.E.
Manager, RCRA Unit
Division of Land Pollution Control
Bureau of Land

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CC: Gary Deigan, The Deigan Group (electronic copy only)

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