



State of Ohio Environmental Protection Agency

STREET ADDRESS:

Lazarus Government Center  
50 W. Town St., Suite 700  
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184  
www.epa.state.oh.us

MAILING ADDRESS:

P.O. Box 1049  
Columbus, OH 43216-1049

November 7, 2007

Mr. William Franks  
Health Commissioner  
Stark County Health Department  
3951 Convenience Circle, N.W.  
Canton, Ohio 44718-2660

**RE: Countywide Landfill – Update on Site Conditions and License Issues**

Dear Bill:

The purpose of this letter is to update you on the progress and efforts that have been made to address the offensive odors and underground fire at the Countywide Landfill. In addition, I want to share my thoughts regarding licensing issues as you prepare to make your recommendation to the Board of Health regarding Countywide's operating license for 2008.

Since I issued Final Findings and Orders ("Orders") to Republic Services of Ohio II, LLC ("Republic") in late March of this year, considerable efforts have been made to further control offensive odors emanating from the Landfill. In addition, my staff and our consultants, using data collected at the Landfill, have performed an extremely extensive investigation over the last several months into the actual causes, nature, and lateral and vertical extent of the fire at the Landfill. This data collection and analysis, while very time consuming, has been an essential activity as we prepare for the selection and implementation of remedial measures that we believe will finally extinguish the fire. Nevertheless, while we feel we have a better understanding of the subsurface fire occurring at the Landfill, the hard work remains to be done. And, while Republic may technically be in compliance with my March Findings and Orders, I am disappointed that I have been unable to move more aggressively towards eliminating the underlying chemical reactions, the fire, and the resultant odors.

### **Update on Progress Being Made to Control Offensive Odors**

My chief objective in issuing the March Orders to Republic was to address the offensive nuisance odors that have plagued area residents. Thus far, we have worked to achieve this objective in two ways. The first was to require Republic to undertake interim

Ted Strickland, Governor  
Lee Fisher, Lieutenant Governor  
Chris Korleski, Director

measures to help control offensive odors during the performance of investigatory and remedial actions. This has been accomplished through Republic's performance of the following measures as required by the Orders:

- the implementation of an Odor Control and Contingency Plan;
- the improved monitoring and tuning of landfill gas wells;
- the enhanced monitoring and replacement of intermediate cover; and
- the improved sealing of the landfill.

The performance of these interim measures has, to some degree, helped control offensive odors until a more permanent solution is implemented. However, I must acknowledge that until the fire is extinguished, unacceptable nuisance odors, will, with unpredictable frequency and at unpredictable locations, continue to occur.

The second way we have been working to control offensive odors is, as noted above, to do a detailed study of site conditions so that we can select and require implementation of **appropriate** remedial actions aimed at eliminating the source of the odors – the fire that is occurring at the Landfill. Pursuant to the Orders, we have required Republic to first study site conditions - to determine the nature and extent of the fire at the Landfill - so that I can select appropriate and effective remedial actions to extinguish the fire.

Toward this end, Republic has:

- installed additional gas extraction wells;
- slope inclinometers with temperature measuring devices;
- collected daily oxygen reading;
- collected weekly settlement data;
- conducted weekly gas extraction system inspection;
- weekly leachate temperature measurements;
- collected weekly gas extraction well temperatures, pressures and flow rates; and
- methane, carbon dioxide and oxygen concentrations.

In addition, the Orders require Republic to collect bi-monthly analysis for carbon monoxide, VOCs, sVOCs, dioxins, furans, hydrogen, acetylene, ammonia, methane and testing of the leachate. Vertical temperature profiling is required to be collected monthly for all wells with a header temperature higher than 150 degrees F.

This has resulted in a massive amount of data, (i.e., nearly a million data points) which my staff has spent thousands of hours reviewing and analyzing. All of this information

has enabled Ohio EPA to better understand the nature of the fire occurring at the Landfill, where the fire is occurring, how the fire develops and migrates through the waste mass, and what effect the fire has had on landfill components. Although more investigation will need to be performed, and I intend to comment on aspects of Republic's Engineered Component Evaluation Study and Fire Suppression Plan and require more investigation and analysis from Republic in the very near future, my staff has learned enough about Landfill conditions to enable me to begin selecting some initial remedial actions.

The first remedial action I have selected involves the installation of a "fire break" between Cells 8(A) and 8(B) at the Landfill. By way of background, when the March Orders were issued, Countywide was already disposing of waste in cells 7 and 8(A). Based upon data that has revealed that the fire in the Landfill mass involves more than an aluminum dross reaction (i.e., that the heat from the original dross reaction has created a smoldering fire in adjacent solid waste which could potentially spread through the waste mass), I determined that a fire break consisting of a complete break between cells with already emplaced waste and cells yet to be developed needed to be installed, and have ordered Countywide to do so. The installation of the fire break is aimed at eliminating any possibility of the spread of the smoldering waste fire to cell 8(B) and beyond.<sup>1</sup>

With respect to actually, finally extinguishing the fire, I anticipate ordering a series of remedial actions aimed at achieving this goal as soon as possible. The first such measure I have just ordered requires Countywide to "dewater" the gas extraction wells within the primary area of concern and any other areas where liquid is being detected in gas extraction wells. Based upon the extensive investigation and data analysis that has been conducted since the issuance of the Orders, we continue to believe that the fire in the area of concern began with the reaction of liquids with aluminum dross, which generated sufficient heat to begin a smoldering fire in the adjacent solid wastes. The aluminum dross reaction most likely began with the introduction of leachate in the area of the Landfill where most of the aluminum waste had been disposed. After the

---

<sup>1</sup> *It is possible that as we continue to learn more about exactly where the fire has spread throughout the waste mass, we may be able to install an additional fire break closer to the boundary of the 88 acres and cell 7. However, this would involve the excavation of solid waste, and in turn, the possible release of very strong odors, and potentially harmful emissions. If I decide that an additional fire break would be appropriate, I will have my staff and Republic work to perform this work in the winter months, if at all possible, in order to minimize exposing the public to the pungent odors and emissions likely to be associated with the required excavation activities. All of this, however, is something that is still being explored, and I am not in a position at this time to be able to make a determination as to whether an additional fire break should be installed in the near future.*<sup>1</sup>

aluminum dross reaction began, and surrounding solid waste began to smolder, we believe that the slow combustion of the solid wastes may have resulted in the generation of additional liquids as a by-product. Recent data indicates that an unusually large quantity of liquid is contained within the primary area of concern and other areas as well. This large volume of liquids has entered the gas extraction wells, thus hindering our efforts to control odors through the use of such wells and negatively impacting the gas extraction system's overall effectiveness.

The impact of the excess volume of liquids on the effectiveness of landfill gas extraction wells, and my concern that the significant amount of liquids in the primary area of concern (and possibly other areas as well) could possibly cause further heat-generating reactions with aluminum materials, is the basis for my order to Republic to intensify efforts to "dewater" the Landfill. I took this remedial action after having my staff discuss this measure with Ohio EPA's contracted experts (who also have been extensively studying site conditions) and after having my staff inform US EPA of our plans. It is my hope that this remedial action will assist in robbing the aluminum dross reaction of the moisture it needs to continue to react, as well as enhance the odor-controlling efficiency of the gas extraction wells to control Landfill odors. As this remedial measure is implemented, my staff and Republic will monitor its effectiveness, and I have directed my staff to keep you and the affected community informed of progress we are making.

I also wanted to give you some idea of what potential future remedial measures I am contemplating at this time. Although, it would be premature to predict with any certainty what measure or measures I will ultimately require Republic to take to fully extinguish the fire and end the odors once and for all, I am currently anticipating that the final remedy will likely be:

- the capping and closure of the affected portions of the Landfill, accompanied by the continued use of an aggressive gas extraction system, until the landfill is fully stabilized;
- the excavation of the landfill or a portion thereof; or
- a combination of the two approaches.

I must tell you that I currently have significant "gut reaction" concerns with the concept of excavation, because of the extremely powerful odors (and potentially harmful emissions) that I fear could be released, and because of the length of time that an excavation project might take. We continue to discuss the viability of these approaches with our experts, and we have not ruled out other possible approaches. As we get closer to selecting the final remedy, I will be seeking the input of you and other

government authorities as well as the public at large regarding the potential measures available to extinguish the fire. Any future remedial measures will likely have "pros and cons" associated with them, and I will want to know what you, other officials, and the public at large think about these more extensive measures before they are selected and implemented.

### **Liner Integrity Issues:**

As you know, one of the key concerns of local citizens has been whether or not conditions at the landfill have been such that the underground liner intended to keep leachate from being released into groundwater might have been compromised. While we still do not have any conclusive proof that such a compromise has been affected, our concerns with subsidence and high temperatures in the landfill have caused Ohio EPA staff to carefully scrutinize and re-scrutinize a wealth of data, both new and old, to see if there is any evidence of a liner breach. Last week, I was advised by my staff that a review of data from the Landfill indicates the presence of methane gas outside the liner at the south end of the landfill. As you know, methane is a gas generated in landfills, and the presence of methane outside the liner could be indicative of a liner breach. However, it is not uncommon to find naturally occurring methane in such locations, and the only way to tell for sure is to install additional soil gas monitors, which will be sampled and analyzed to determine the specific origin of the methane. Accordingly, I intend to require Republic to further investigate this issue pursuant to the information-gathering authority I have under the Orders. While we have no conclusive evidence of a liner breach, the presence of such a breach would obviously be of significant concern to Ohio EPA and we would carefully evaluate the need for potential remedial measures.

However, I must emphasize that even if there were a liner breach; Ohio EPA believes that there would be little, if any, threat to public health and safety due to a leachate release. First, if there were a release of leachate to the uppermost aquifer system underlying the landfill, the ground water monitoring system we required Republic to install around the landfill would detect the release and thus enable me to require Republic to perform appropriate assessment and corrective measures in accordance with Ohio EPA's ground water monitoring rules. Second, even if there were vertical migration of leachate beyond the liner system, given the geology of the site, we expect that any releases of leachate that has reached the uppermost aquifer system would move horizontally and be expressed as seeps and springs along the hillsides surrounding the landfill, rather than moving vertically into the regional aquifer system and presenting a potential danger to the community. Such horizontally expressed leachate would be readily observed and remediated. Finally, my ground water experts

inform me that it would be physically (i.e. geologically) impossible for any groundwater that might be contaminated by the landfill leachate to reach the public water supplies of Bolivar or Wilkshire Hills. In short these public water supply systems are not in danger as a result of potential ground water concerns related to the landfill.

### **Sufficiency of Current Air Monitoring:**

As noted above, we continue to be concerned about the high temperatures we are observing within the depths of portions of the Landfill mass. Not only do these temperatures reflect a threat to liner integrity, but they also give rise to the creation and potential emissions of compounds, such as benzene, at unusually high levels not commonly generated in landfills. Recent data analysis has demonstrated the presence of these compounds deep within the landfill, and my staff is evaluating whether these materials, once subjected to the gas extraction process and routed to the flare, would be adequately destroyed. Ohio EPA's air pollution control staff has opined that properly operating flares would efficiently destroy the compounds measured in the gas extraction system at the Landfill. This conclusion is supported by the results of the current ambient air monitoring program required both on and off the Landfill's property. These results continue to demonstrate measured ambient air concentrations of organic compounds below our level of concern, based upon the potential to cause short or long-term health effects in the surrounding community. Nevertheless, in order to resolve this issue with finality, I will shortly be requiring Republic, through the information-gathering authority under the Orders, to ensure and prove proper flare operation through additional Ohio EPA engineering evaluation and to enhance and expand its current ambient air monitoring requirements so as to include testing for the ambient concentrations of these additional compounds as well.

### **Thoughts Regarding Countywide's Operating License for 2008**

Earlier this year, I wrote you concerning my thoughts regarding whether Republic should receive a license for 2007. In my letters to you of February 21, 2007, and March 28, 2007, I discussed the relevant standard of law governing whether an applicant for a license should receive one. In particular, I pointed to Ohio Revised Code ("ORC") Section 3734.44(D) which requires that an applicant be "in substantial compliance with, or on a legally enforceable schedule that will result in compliance with, environmental laws in this state and other jurisdictions" in order to be licensed.

I also pointed out in my letters that because Republic is in violation of solid waste and air pollution control laws, Republic should not be licensed unless they enter into Director's Final Findings and Orders with Ohio EPA to begin the process of returning to

full compliance with Ohio law. As you know, Republic entered into such Orders with Ohio EPA, and consequently, I concluded in my letter of March 28<sup>th</sup> that "as a legal matter, the Orders we have negotiated with Countywide constitute 'a legally enforceable schedule to attain compliance' with applicable law." This situation has not changed, and Republic has complied with those Orders based upon available information, although, given a few lapses in communication/cooperation that have occurred, and the extremely detailed data analysis performed by Ohio EPA staff, I believe that we have been more aggressive than Republic in attempting to understand the reactions occurring within the landfill and in trying to develop an effective remedial program.

Ultimately, despite Republic's compliance with the March Orders, I am simply unsatisfied with the progress that I have been able to achieve during my tenure here at Ohio EPA. While the necessary investigation of site conditions, including the important work of assessing the integrity of engineered components, has been proceeding, the fire has continued to burn and even spread beyond areas that were initially our focus of concern. While I have taken action to address this situation through the installation of a fire break and by requiring Republic to dewater the Landfill, I must acknowledge that the odors have not been fully abated, and that the final remediation measures that I am contemplating will not be implemented simply or quickly.

I wanted you to have this information as you consider the licensing issues regarding the Countywide Landfill and the recommendation you will make to the Board of Health. The Board of Health, as the licensing authority, has a difficult decision to make, and I know it will be considering the consequent impacts of any decision it makes, including ensuring a sufficient and readily available capacity for solid waste generators in northeast Ohio and Ohio EPA's need to continue our remediation efforts at the landfill. Regardless of the board's decision please know that Ohio EPA commits to aggressively continue our efforts in addressing conditions at this landfill.

As always, if I can provide you with any additional information, please let me know.

Sincerely,



Chris Korleski, Director  
Ohio EPA