

Fact Sheet on Odor Control

Winnebago Landfill Facility

January 2010

The Winnebago Landfill Facility would like to assure all who are concerned that we are doing everything possible to manage and control odors dispersed by the Winnebago Landfill Facility. We hope that this fact sheet will be helpful to understand our operations and what we are doing to minimize the odors that are associated with our operations.

What Causes the Odors Dispersed by the Landfill?

Odors are an inevitable part of landfill operations. Typically odor comes from the waste as it is deposited within the landfill and from gas that is generated as the waste decomposes.

The odor that comes from the waste is a normal part of our operations and varies depending on the composition and temperature of the material. Management of odors generated by the landfill is a normal part of our operational plan.

The odor that comes from landfill gas is the result of decomposition of the material within the landfill. In addition to regular solid waste (garbage), the landfill also takes in construction and demolition debris material that contains crushed drywall material. The same decomposition process that generates landfill gas also creates hydrogen sulfide (H₂S) gas during the decomposition of the drywall. Hydrogen sulfide is noticeable by people at very low concentrations.

Do the Odors Pose a Health or Safety Risk?

No. The odor associated with the material deposited in the landfill and the landfill gas is not harmful at the levels present outside of the landfill. The Winnebago Landfill regularly monitors the concentrations of gasses at the surface of landfill and the area surrounding the landfill. The odor associated with hydrogen sulfide can be unpleasant, but the levels surrounding the landfill are below the detection limit of the instruments that we use to measure the concentrations. Since the levels are not detectable there is absolutely no health or safety risk of any kind.

Why is the Odor More Noticeable Now Than in the Past?

The only odor that may be more noticeable now than in the past is associated with the hydrogen sulfide. The Winnebago Landfill monitors hydrogen sulfide levels in the landfill gas. The hydrogen sulfide levels in the landfill gas increased in 2007 and 2008 and now appear to be dropping off. The elevated levels of hydrogen sulfide in the landfill gas are attributed to decomposition of pulverized drywall in construction and demolition debris that the landfill began receiving in 2006.

In addition, landfill gas and hydrogen sulfide generation increase with the amount of moisture that the landfill receives. 2009 was a particularly wet year which resulted in an increase in the potential for the landfill to generate hydrogen sulfide.

Winnebago Landfill no longer accepts drywall wastes. The hydrogen sulfide odor that has recently been present in the landfill gas results from this material and the landfill no longer accepts it. It is not associated with the quantity of waste that the landfill receives or with the community where the waste comes from.

What Are We Doing to Control Landfill Odor?

Minimize Areas Where Waste is Exposed:

The landfill is minimizing the amount of open area on the landfill where the waste is deposited. We do not believe that the recent complaints are associated with the incoming material as it is deposited at the landfill. Rather, the recent odor complaints are associated with the decomposition of the waste that has previously been deposited. However, minimizing the areas where waste is exposed to the atmosphere will reduce the odors associated with our daily operations.

Application of Daily and Intermediate Cover:

We cover the area of operations at the end of each day with soil or other materials to reduce odors. This is called daily cover. Additionally, any loads of waste that are received during the daily operations that are odiferous are immediately covered with other waste materials. We cover areas of the landfill that we will not be using for a period greater than 30 days with a thicker cover layer that is called intermediate cover. Some daily and intermediate covers are more effective at reducing odors. These include material that is less permeable or that has properties that help to neutralize odors. The Winnebago Landfill has been specifically using clay, powdered limestone (Ag Lime), and compost material as a cover in areas of the landfill that have the potential for generating odors. The clay layer forms a low permeability layer that prevents landfill gas from leaking through the cover. The Ag Lime and compost help to neutralize the odor through chemical or biological processes.

Placement of the Final Cover in Areas of the Landfill That Are Completed:

The Winnebago Landfill will place a final cover over areas of the landfill facility that have reached the final design elevation. The final cover has a composite cover system that consists of a one foot thick low permeability clay layer that is overlain with a 40 mil polyethylene geomembrane that is impermeable to moisture and gas. The final cover will effectively seal the surface of the landfill and eliminate any potential for odors.

Landfill Gas Collection and Control:

The Winnebago Landfill has an active gas collection and control system that maintains a negative air pressure within the landfill. The system collects landfill gas from within the landfill and prevents gas from leaking through the cover layers on the landfill. Landfill gas that is collected is typically used as a fuel to generate electricity at the Winnebago Energy Center. The Winnebago Landfill also has two separate flare systems to burn the landfill gas during periods when the Winnebago Energy Center is not operating or if the landfill generates more gas than the Winnebago Energy Center can utilize.

The Winnebago Landfill has recently completed installing additional gas wells in areas that we have identified as a source of the odor. These wells are in the process of being integrated into our collection system for the generation of electricity.

The Winnebago Landfill has also installed temporary landfill gas collection systems that are not required by regulations or part of the original design plan. The temporary landfill gas collection system and adding permanent wells into our gas collection systems is an ongoing part of the landfill's efforts to prevent odors from becoming a nuisance to the surrounding area.

Prohibit Acceptance of Odor Generating Material:

The Winnebago Landfill has contacted generators of the pulverized drywall to let them know that we will no longer accept drywall if it has been pulverized. Any generators of material that contains pulverized dry wall will be prohibited from utilizing the Winnebago Landfill Facility. This will not completely eliminate the odors associated with the landfill. However, it will greatly reduce the amount of hydrogen sulfide in the landfill gas and minimize the potential for the landfill to cause odors that are noticeable offsite.

The Winnebago Landfill Facility is committed to ensuring that our operations have a minimum impact on the surrounding community. We have adopted an active and comprehensive odor management plan at the Winnebago Landfill Facility. If you have any questions or complaints regarding our operations complete the Contact us section on our website.

Sincerely,

The Winnebago Landfill Company