

Cedar Hills Regional Landfill Community Meeting Notes
October 25, 2011
King County Library Service Center, Issaquah, WA

King County Solid Waste Division staff in attendance

Laura Belt, Engineering Staff
Kathy Hashagen, Facilitator
Kathryn Killinger, Strategic Policy & Planning Advisor
Marilyn Monk, Engineering Staff
Victor Okereke, Engineering Services Manager
Dean Voelker, Operations Manager

INGENCO/Bio Energy Washington staff in attendance

Tom Kennedy, Senior Vice President of Manufacturing and Operations, INGENCO
Ken Kelly, Lead Operator, Bio Energy Washington

Citizens

Ten members of the public attended the meeting.

Introductions

(Kathy Hashagen)

Hashagen welcomed everyone and reviewed the meeting agenda.

Construction & Environmental Monitoring Activities

(Victor Okereke)

Construction at the Landfill has been slow this summer. Instead, these remarks will focus on environmental monitoring.

Landfill Gas

A few months ago, Solid Waste Division (SWD) landfill staff detected elevated levels of methane in one of the fifty-nine gas probes at the landfill. The detection occurred in the central area of the west buffer and triggered a series of actions, including:

- reporting the elevated levels to regulators (Public Health-Seattle & King County) and
- monitoring off site structures

SWD identified nine properties in the vicinity of the gas probe. The division contacted and received approval from four property owners to test their homes for methane. Those four homes were tested yesterday and no detectable levels of methane were found. Letters and additional information were left at the five other properties. *Note: since this meeting all nine property owners were contacted. No measurable levels of methane were detected in any of the seven homes that allowed testing to occur.*

Elevated levels of methane were first detected in that probe in June. In July, levels were back to normal. Elevated levels reoccurred in August and then again in September. In response,

landfill staff increased the frequency of monitoring of the gas probe from twice per month to three times per day. Landfill staff has also gradually increased the intensity of the vacuum in the landfill gas collection system. Increasing the vacuum must be done carefully. Too much vacuum will draw oxygen into the system which could possibly result in a landfill fire.

SWD will continue to investigate the probe and adjust the intensity of the vacuum to reduce the chance that any landfill gas leaves the landfill. Landfill neighbors that would like their homes or other structures on their property tested for methane were invited to write their contact information on a sign-up sheet or may contact SWD at 206-296-4490. SWD will make arrangements to provide testing.

In response to questions from participants about landfill gas, the division provided the following information:

- Methane, carbon dioxide and nitrogen dioxide make up 95% of landfill gas. The remaining 5% is oxygen, ammonia and trace gases.
- A measurement greater than 50,000 parts per million (ppm) of methane at the landfill property boundary, is defined by regulation as an exceedence at a landfill. Measurements greater than 100 ppm of methane is defined by regulation as an exceedence in offsite structures. The regulation that defines these limits is Washington Administrative Code (WAC) 173-351 which is the Washington State equivalent of the Federal Solid Waste Landfill Regulation Subtitle D.
- The cause of the exceedence is unknown.
- Because of the intermittent nature of previous results, SWD began to investigate in September when the elevated levels had been detected for two consecutive months.
- Methane is explosive when it makes up between 5% and 15% of the volume of gas. If there is less than 5% methane (or 50,000 ppm) there is not enough methane for it to be combustible. If the gas contains more than 15% methane (or 150,000 ppm), there is not enough oxygen to support combustion.
- The testing is done by SWD employees. Yesterday, an external consultant AMEC/Geometrix was invited to come and observe the testing.
- There was only one gas probe with an elevated methane level (over 5%); other probes were within normal limits.
- The cause of the elevated methane level is still under investigation.

Ground water monitoring

There are more than one hundred ground water wells around the landfill. SWD has monitored ground water wells for more than 20 years. Monitoring includes quarterly testing for more than 80 parameters and for other measures like temperature and alkalinity. The results of the monitoring are reported quarterly and are posted online at http://your.kingcounty.gov/solidwaste/facilities/documents.asp#cedar_reports.

The wells monitor ground water in two zones: shallow (less than 100 feet) and deep (about 300 feet). Shallow zones contain pockets of water that have seeped down from the surface and are generally the result of rainwater. Deep water comes from the aquifer and is the source of water for wells.

Over time, SWD has noticed decreasing trends of the monitored parameters in the shallow zones. There have been no changes in trends or exceedences in the deep water zones that would indicate the ground water has been impacted by the landfill.

Occasionally, regulatory agencies require changes from current practices as a condition of issuing permits. The Seattle King County Department of Public Health, supported by the Washington State Department of Ecology (DOE), regulates the landfill regarding ground water and has requested that SWD do some things differently in the future as a condition for future permits. You may see some ground water related activities at the landfill in response to that request. These activities will include the installation of new groundwater monitoring wells or the replacement of some existing ones.

In response to questions from participants about ground water, the division provided the following information:

- Cedar Grove Compositing is located at a site previously occupied by Queen City Farms. That location, which is southwest of the landfill, was a disposal site for many years and designated as a superfund site. Boeing conducted clean-up activities. The Historical disposal activities conducted offsite and south of the site, such as the Queen City Farms has been demonstrated to be responsible for the exceedances detected in the deep groundwater zone. The Solid Waste Division does not believe that Cedar Grove Compositing activities are responsible for the exceedances found in deep water monitoring results.
- Industrial and commercial wastes were disposed at three unlined ponds located on the Queen City Farm property between the mid – 1950’s and the mid – 1960s.

Operational Activities

(Dean Voelker)

Landfill tour

On September 10, 2011 the annual landfill tour for neighbors was held. Approximately 30 people participated including a few of the people attending this meeting. Four participants determined what they wanted to see as opposed to following the normal tour pattern.

Landfill activities

Interim closure of Area 6 is in process. Landfilling is occurring on the second lift of Area 7. Some winterizing activities like cutting vegetation, filling potholes and replacing roads are in process in addition to regular daily activities.

In response to questions from participants about operations, the division provided the following information:

- Tonnage has continued to decline from about 3,500 tons per day in 2007 to about 2,900 tons per day in 2011.

Bio Energy Washington plant update

(Tom Kennedy)

Plant activity

Jeff Brown no longer works for Bio Energy Washington (BEW). Ken Kelly is the lead operator at the plant and will take Jeff’s role for the time being.

At the last community meeting, BEW discussed difficulties with the equipment that removes nitrogen from landfill gas. It’s necessary to remove the nitrogen in order to clean-up the gas and make it pipeline quality. BEW has worked with many consultants to evaluate new

equipment for nitrogen removal. They expect to issue a contract at the end of the week for the new equipment.

Currently, the plant is taking only enough landfill gas to power the generators necessary to operate the first stage of the plant. Some of the equipment in that part of the plant could deteriorate if it is not operated.

Neighbors may also have seen PSE working along Cedar Grove Road installing a dedicated power line for the plant.

The noise monitoring system discussed at the last meeting has been installed. Some monitors in the system failed and were repaired. Because the plant has been in limited operation, there hasn't been much noise. BEW offered to show participants noise information on a laptop available at the meeting.

In response to questions from participants about the plant, BEW provided the following information:

- When the plant is fully operational, neighbors can expect a similar noise level as before. However, it should be less noise than they experienced before the noise mitigation measures were installed. The noise will be at or below the limits identified in the King County Code.
- At the last meeting, BEW said additional mitigation would result in improvement. The promised mitigation was installed, but the plant has been down since that time and the results have not been experienced by residents.
- The noise mitigation equipment that BEW said was ordered and not installed at the last meeting was dome covers for the vacuum pressure swing adsorption (VPSA) vessels and further enhancements on the valve piping skid. [Editor's note: "valve piping skids" is a frame (steel/non-steel metal) or a metal plate where the valve, pipes, or other accessories are securely mounted on together.] The valve piping skid has been closed in on four sides.
- Currently, the only source of noise from the plant could be the generators. However, BEW is using hospital grade noise diffusers and only the fans from the generators should be audible.
- BEW wants to capture and process 100% of the landfill gas produced but is using very little gas at this time because the plant is not fully operational.
- BEW is not sure if they will post sound results on the web.
- BEW expects the plant to be back in operation in six months.

Attendees said that a larger crowd can be expected at the next community meeting if the plant is in operation. Another reason for low attendance may be that the meeting notice was sent out in August and also included an invitation to the September landfill tour.

In response to a question, SWD said that the mailing announcing the meeting and the tour was sent to approximately 3500 hundred residents in an area identified by King County's GIS (Geographic Information Systems). The meeting was also announced via email to neighbors, local newspapers, and SWD's website. Attendees were asked to encourage others to provide their contact information, so they can be sure to receive invitations to future meetings.

Meeting adjourned at 8:10 p.m.