



Cedar Hills Regional Landfill Community Meeting Notes

April 23, 2014

King County Library Service Center • 960 Newport Way NW, Issaquah

In Attendance

King County Solid Waste Division staff

- Laura Belt, Senior Landfill Engineer
- Bill Berni, Operations Manager
- Kathy Hashagen, Facilitator
- Kevin Kiernan, Assistant Division Director
- Victor Okereke, Engineering Services Manager
- Polly Young, Communications Planner

Other King County staff

- Ed Davis, Health and Environmental Investigator, Environmental Health Services Division, Public Health
- Fred Jarrett, Deputy County Executive
- Rhonda Kaetzel, Toxicologist, Environmental Health Services Division, Public Health
- Bill Lasby, Supervisor, Solid Waste/Vector, Environmental Health Services Division, Public Health
- Alan Painter, Community Services Area Manager Department of Natural Resources and Parks

Bio Energy Washington (BEW) staff

- Don LeMaster, BEW Plant Manager

Interested Parties

- | | | |
|------------------|--------------------------|-------------------|
| • Bill Beck | • Hendrick "Hank" Haynes | • Sean Kronberg |
| • Mark Blume | • Sharon Kay | • Leslie Morgan |
| • Karen Dawson | • Devron Hayes | • Norm Peery |
| • Mimi Dickens | • Mark Heinzen | • Ian Sutton |
| • Tom Dickens | • Jim Howe | • Sharon Woodruff |
| • Gordon Francis | • Edie Jorgensen | |
| • Kathy Francis | | |

Pipeline Update

(Kevin Kiernan)

On December 7, 2013, there was a failure of the pipeline that supplies landfill gas from the County's North Flare Station to Bio Energy Washington's (BEW) landfill gas-to-energy plant. It was cold that day, and a preliminary investigation shows that the cold temperature was a factor in the pipeline failure.

After the Solid Waste Division (SWD) heard from landfill neighbors about a gas odor, SWD employees were dispatched to the site. They found a break in the pipeline and shut it off.

On Dec. 11, SWD employees hand delivered notices to about 100 neighbors on the east side of the landfill (the wind direction on Dec. 7 was toward the east), to let them know of the incident and that the pipeline was shut down.

The pipeline remained shut down while repairs were made. Two pressure tests were done on the pipeline and no other issues arose. The pipeline was restarted on December 20, 2013. SWD mailed notices to residents around the landfill notifying them of the restart.

SWD deeply regrets the incident. We take seriously our responsibility to protect people and the environment and seek continuous improvement of our processes.

SWD is aware that some neighbors have hired legal counsel and that a claim or lawsuit against the County is reasonably likely. Kevin stated that per King County Code, KCC 2.21.060.C.1, there are certain issues related to this incident that County employees cannot discuss. We can only provide facts, we cannot speculate.

Construction & environmental monitoring activities (Victor Okereke)

Victor indicated he would cover four topic areas:

1. Noise studies
2. The "Overarching" Project (also known as the *Environmental Control Systems Modification Project*)
3. Ground water monitoring
4. Construction Activities

Noise Studies

During the 2012 noise study, noise was monitored at five locations around the site's property line.

As mentioned before, there were two main findings from that noise study:

- Noise from the North Flare Station was bothersome to our neighbors. That issue was addressed by insulating a number of pipes at the north flare station.
- In the southwest and southeast areas of the landfill, noise measurements were within limits during the daytime, but some nighttime measurements exceeded noise limits.

At the community meeting in October 2013, we indicated SWD would work on further noise reduction from North Flare Station, which was done, and that SWD would hire a consultant to help us differentiate background noise from landfill noise sources. We apologize that we have not moved as quickly on that noise differentiation project as soon as we would have liked. SWD has hired a consultant, AECOM, and this year, they will take additional noise measurements. Over the next 12 months, our consultants will collect and analyze the data to try to differentiate the noise sources. The noise studies are posted on the division's website, <http://your.kingcounty.gov/solidwaste/facilities/cedar-hills-meetings.asp>.

“Overarching” Project (Environmental Control Systems Modification Project)

The division operates and maintains the complex environmental controls system at the landfill. Regulatory agencies provide oversight and ongoing performance monitoring. This coordination helps us ensure long-term environmental protection. This project will evaluate all of the environmental control systems at the landfill (landfill gas, leachate, stormwater and groundwater) to determine if they are working as expected. All of those systems work together and they periodically need a full check up – similar to a 50,000 mile check up on a car. This project provides a holistic check of the landfill's environmental control systems.

In 2014, the consultants hired for this project will review historical data on the landfill's environmental control systems. In 2015, they will provide recommendations to SWD. After that, they will start on design of modifications, as needed. SWD will set priorities on any necessary construction modifications; construction would occur between 2015 and 2017.

Groundwater Monitoring

There have been no significant changes in groundwater quality at the site since the last community meeting. Data is posted online

Construction

There are no construction projects planned for the landfill this year. Interim final closure of Area 7 and construction of Area 8 will occur in 2015.

Operational activities

(Bill Berni)

This summer, landfill employees will perform maintenance along our property boundary fence lines. This will include fixing fences, mowing, storm debris clean up, etc.

Top cover maintenance on Areas 5 and 6 will occur this summer and will include installation of gas collection lines.

In response to questions from participants, King County provided the following information:

- No SWD employees were hurt as a result of the pipeline incident on Dec. 7. We understand some neighbors reported leaving and seeking medical treatment.

- There have not been any explosions at the landfill. [*A neighbor reported hearing what he thought to be several large explosions near where he lives near Mirrormont.*]
- Contaminated water that originates from the Queen City Farms site that passes under the landfill is not treated by SWD. The water that leaves the landfill site is cleaner than the water that arrives on site from Queen City Farms. SWD has 48 groundwater monitoring wells around the landfill site, which we monitor on a quarterly basis. Over the last 20 years, water quality has been stable.
- On the night that the pipeline broke, SWD employees did not go to any other neighbors' homes to check on them. [*SWD employees were in phone contact with three households that night.*]
- Groundwater is monitored by SWD at different depths; the regional aquifer is at a depth of 150-200 feet; and perched groundwater zones are at a depth of 30-50 feet.
- The Federal Environmental Protection Agency has jurisdiction over the former Queen City Farm site; King County does not have a role in that site.
- There are state regulations that inform SWD what constituents need to be monitored in groundwater. That information is available on SWD's website. [*The reports are accessible through the Cedar Hills Regional Landfill Community Meeting website under "Other documents", <http://your.kingcounty.gov/solidwaste/facilities/cedar-hills-meetings.asp>.*]
- Findings from groundwater monitoring are reported to regulatory agencies; not directly to landfill neighbors.
- The WA State Department of Health requires testing of private homeowners' wells. Homeowners with private wells can ask their water purveyor what constituents are included when water is tested.
- During a routine morning check of landfill gas levels at the North Flare Station on Nov. 26, 2013, the landfill gas operator noticed a higher than normal oxygen reading. He investigated the situation and found an abnormality in a section of a 22-inch pipe that is under vacuum. The pipe was immediately repaired with available parts until new parts arrived and were installed shortly thereafter. The November 26th discovery was different than the Dec. 7 landfill gas pipeline incident because the Nov. 26 discovery was on a pipe under vacuum. The vacuum ensured that the landfill gas was pulled back into the landfill gas collection system, and not released into the air.
- The pipeline that broke on Dec. 7, 2013 was put back into service on Dec. 20, 2013.
- Calls to the Cedar Hills Regional Landfill after normal working hours are answered by King County Roads Division. The Roads Division employee fills out a Citizen Action Request (CAR) form and then calls the Solid Waste Division On-Call Supervisor to follow up on the complaint/concern.
- After normal working hours at the landfill, there is a Security Guard on site and a SWD Operations Supervisor who is on-call.
- Residents should always call 911 first if they believe there to be an emergency. If area residents think a concern is related to the landfill, they are asked to contact the landfill.

- SWD reached out to the local area emergency services (Eastside Fire and Rescue) after the Dec. 7, 2013 pipeline incident in order to familiarize them with our operations.
- When an odor complaint is received, SWD determines whether the source is from the landfill. Landfill gas has a bitter, acrid smell. Compost has a sweet, heavy smell.
- There was about a four-hour window between the time the fire department was called and the pipeline was shut off on Dec. 7, 2013.
- Prior to excavating garbage, SWD will write up an odor control plan and submit it to the Seattle-King County Public Health for review and approval. When landfill Area 8 is constructed, that will involve the excavation of garbage in the South Solid Waste Area.
- In response to the pipeline incident on Dec. 7, SWD has taken the following steps: 1) increased staffing to observe and monitor the pipeline, which includes staff on site 24/7, 2) met with local area emergency responders, 3) worked with BEW to clarify procedures between our operations, and 4) added an automatic shut off capability to the pipeline involved in the Dec. 7 incident. This pipeline is the only landfill gas pipeline under pressure at the landfill site; the rest are under vacuum.
- Public Health has increased their inspections of the landfill to once a week after the Dec. 7 incident.
- The “chain of command” for residents to report a concern regarding SWD is:
 1. Call landfill main number: 206-263-1000 (**NEW NUMBER**)
 2. Call Operations Manager Bill Berni (206-263-1023)
 3. Call SWD Assistant Director, Kevin Kiernan (206-477-4555)
 4. Call SWD Director, Pat McLaughlin (206-477-4501)
 5. Call Department of Natural Resources and Parks (DNRP) Director, Christie True (206-477-4550)
 6. DNRP Director reports directly to King County Executive Dow Constantine (206-263-9625)
- SWD does regular monitoring of the landfill environmental controls to ensure the systems are operating properly. SWD employees check landfill gas at depth (sub surface), check landfill gas on the surface during quarterly “serpentine” walks over the entire landfill, and perform twice a day odor checks.
- The methane detection equipment used during the serpentine walks is a Foxboro TVA 1000. The equipment is approved by the Puget Sound Clean Air Agency.
- The initial noise study referred to in this meeting was conducted in 2010. In Oct. 2012, a follow up noise study was done. In 2014, the consultant hired by SWD will undertake work to differentiate background noise from landfill noise sources in the southeast and southwest parts of the landfill site.
- SWD is paying for the noise study and the study will take into consideration the topography of the landfill site.

- Due to neighbor concerns about the noise associated with mowing in the landfill buffer as part of SWD's annual maintenance, SWD will start mowing after 9 a.m. SWD provides written notice to immediate landfill neighbors about this annual maintenance.

Bio Energy Washington (BEW) plant update

(Don LeMaster)

General operations

Since the last community meeting six months ago, it's been business as usual, with normal operational challenges, at the BEW plant.

The plant has consumed 2.04 billion cubic feet of landfill gas and has produced .72 billion cubic feet of renewable natural gas, enough to supply about 10,200 homes. Plant up time has been at 86 percent and has generated more than 11 million kilowatt hours of electrical power, which is enough electricity to power 2,000 homes.

Sound Issues

BEW has conducted sound attenuation activities to address specific "whistling", "groaning" and "whooshes" type noises that were detectable from the plant operations. While BEW's consultants reported that noise from their plant operations did not exceed permitted levels in 2009-2010, those noises were still detectable and needed to be addressed. In 2010-2011, BEW implemented a sound mitigation program to eliminate those specific noises. From March 2011 until July 2012, the plant underwent a retrofit which further reduced noise.

Sound generated by the candlestick flare when the plant has to dump gas is the remaining sound issue. The Solid Waste Division and BEW are working to reduce the frequency of instances when gas is dumped by decreasing nitrogen levels in the landfill gas.

BEW has a plant sound monitoring program in place that includes:

- On-site, permanent and continuous sound monitor located at the plant
- Two portable sound monitors placed off-site; one to the southeast of the landfill and one to the northwest of the landfill [Note: Since the April 23, 2014 meeting, Don provided the following GPS coordinates for the location of the portable sound monitors. In the southeast of the landfill, the GPS Coordinates are: 47° 27' 23"N – 122° 02' 13"W. In the northwest of the landfill the GPS Coordinates are: 47° 27' 38"N – 122° 03' 28"W]
- Eight locations (mostly to the east and southeast of the landfill property) where sound is monitored weekly using Extech Sound Level Meters.

Prior to the meeting, an area neighbor raised a question about noise in relation to BEW plant operations on a specific date: June 13, 2013. The neighbor indicated that she had not heard any noise on June 13 and wondered if there was anything unusual going on at the BEW plant that day.

Don reported that on June 13, 2013, the plant operations were different than the day before and the day after. In the early morning on June 13, between midnight and approximately 4:30

a.m., two unsuccessful attempts and one successful attempt were made to start up the plant. By 5:30 a.m., the plant was operating normally and remained routine for the rest of the day. Don presented three slides that showed sound signatures for June 12, 13 and 14 that were recorded by the site's permanent sound monitor. The sound signature information showed that there were periods of reduced sound during the early morning plant startups on June 13. The sound signature for June 13, when the plant was operating normally, was similar to the sound signatures for June 12 and June 14.

BEW's sound policy was described as follows:

- BEW uses its sound monitoring equipment to see if the BEW plant had an upset at a time in question
- BEW will work with neighbors to determine whether or not BEW is the source of identified noise
- BEW has portable sound monitors that can be deployed to locations where noise is identified as a concern.
- If BEW finds that they are the source of a noise problem, then BEW will fix it

In response to questions from participants, the following information was provided:

- In response to a question about disposal of the various media which are used to process out impurities, Don LeMaster stated he would provide the locations at which the media are disposed. [Note: Since the April 23, 2014 meeting, Don provided the following information about media disposal locations: After appropriate sampling and analysis, all of the media used in the processes has been cleared to be disposed at the Cedar Hills Regional Landfill.]
- In response to a question about volatile organic compounds, which are trace components in landfill gas and impurities, Don stated that they are removed from the gas during the adsorption cycle of the pressure swing adsorption system, released from that media during the regeneration cycle, and sent to the thermal oxidizer where they are incinerated at approximately 1650⁰ F.
- Victor Okereke noted that the Solid Waste Division's special waste clearance program requires a description of materials to be disposed before they can be accepted at the landfill. Cedar Hills Regional Landfill does not accept hazardous waste.
- Bill Lasby from Seattle-King County Public Health stated that Public Health has an employee that does waste screening to ensure that waste being disposed at the landfill is not dangerous waste. If waste is too concentrated, it is not accepted at the landfill.
- When the BEW plant is not operating, the landfill gas is flared by the Solid Waste Division at the North Flare Station and/or by BEW's candlestick flare. The Solid Waste Division flared the landfill gas for the 16 months when the BEW plant was shut down for its commissioning from May 2009 through Sept. 2010.
- The BEW plant operated at full capacity only 86 percent of the time in the last six months, in part due to the pipeline incident.

- Kevin Kiernan stated that since the late 1980's, SWD directed landfill gas to the North Flare Station where it was destroyed at a percentage in the "high 90's."
- Don reminded meeting participants that sound reduction efforts are a team effort. If residents hear noise, they need to contact BEW. BEW has a portable noise monitor that can be deployed to locations where noise is identified as a concern to help determine whether or not BEW is the source of identified noise.
- BEW has scheduled a plant shutdown for April 29, 2014; they will conduct a noise monitoring program during this time.
- Victor stated that the "overarching project," that will evaluate the landfill's environmental control systems, will also look at ways to balance the division's environmental compliance obligations, which is our first priority, with the need to provide BEW with quality landfill gas.
- After the Dec. 7, 2013 pipeline incident, BEW implemented a new procedure for timely and appropriate handling of contacts (telephone, email, messaging, etc.) from outside organizations.
- In the event of an area power failure, the North Flare Station completely shuts down and gas does not flow through the pipeline.
- Kevin Kiernan said that SWD expects that a report outlining the findings for the cause of the pipeline failure will be available by the end of April 2014.

Meeting Adjourned at 9:30 p.m.