



**Cedar Hills Regional Landfill Community Meeting Notes**  
**April 6, 2011**  
**King County Library Service Center**

King County Solid Waste Division staff in attendance

Kathy Hashagen, Facilitator  
Kevin Kiernan, Division Director  
Kathryn Killinger, Strategic Policy & Planning Advisor  
Victor Okereke, Engineering Services Manager  
Dean Voelker, Operations Manager  
Polly Young, Communications Planner

INGENCO/Bio Energy Washington staff in attendance

Jeff Brown, Plant Manager, Bio Energy Washington  
Tom Kennedy, Senior Vice President of Manufacturing and Operations, INGENCO  
Chuck Packard, CEO of INGENCO

Citizens

Thirty-four members of the public attended the meeting.

**Introductions**

(Kathy Hashagen)

Hashagen welcomed everyone and reviewed the meeting agenda.

**Proposed New Format for Meetings**

(Kevin Kiernan)

The Solid Waste Division (division) has been meeting with landfill area residents since the late 1980's in a forum called the Cedar Hills Citizens Review Committee. Those meetings were a requirement of the Ernest Hanni, et al. v. King County, et al. settlement agreement for the purpose of monitoring conditions at the landfill. The committee included a chairperson, two non-litigant area residents and two division representatives. In the mid 1990's, the format of the meetings changed to fit the needs of the committee members. Meetings occurred with varying frequency and attendance has been low since the mid 1990s.

The division is committed to meeting with landfill area neighbors on a regular basis to provide an ongoing forum for discussion of conditions and activities at the landfill.

The division is proposing a new format for these community meetings going forward. The new format includes:

- Holding meetings twice a year; preferably in the spring and fall. It would be helpful to hold meetings on a set day of the month, so the schedule is predictable for everyone. The division will host an annual landfill tour for area residents. Individual tours may also be arranged anytime by contacting the division.

- Establishing a set location for meetings. The library service center where the meeting was held is a nice venue with big enough space to accommodate everyone at no cost.
- Standing meeting agenda items will include, operational, construction and environmental monitoring activities, landfill gas-to-energy facility updates, and time for questions and answers.
- Meeting notification will be provided via notices posted on the division website, emails to area residents for whom the division has email addresses, notices in area newspapers, and signs posted in the community.
- A new webpage, <http://your.kingcounty.gov/solidwaste/facilities/cedar-hills-meetings.asp> will include meeting notification, agendas, meeting notes and links to other landfill information and reports

There were no questions or comments from meeting participants about the proposed new format for these community meetings with landfill area neighbors.

## **Operational Activities**

(Dean Voelker)

### ***Annual buffer zone maintenance***

The division performs annual maintenance in the landfill buffer area, which includes clearing vegetation and brush, and road maintenance. This summer, landfill staff will be performing road maintenance around the landfill perimeter that includes bringing in loads of rock, spreading the rock, and grading the road beds. The division will send a mailing to nearby neighbors about the work in advance; immediate neighbors may hear the work.

### ***Transition from Area 6 to Area 7***

At the end of 2010, landfill staff shifted from disposing garbage in Area 6 to disposing in Area 7. This summer, the division will place an interim cover on Area 6.

### ***In response to questions from participants, the division provided the following information:***

- The division expects it will take 6-7 years to fill Area 7 based on current disposal rates. [Note: the underlined portion corrects what was said at the meeting. The division expects it will take 6-7 years, not 3-4 years to fill Area 7.]
- Construction at the landfill will occur during normal operating hours.
- The last solid waste transfer trailers arrive at the landfill at 9:30 p.m.
- Cedar Hills Regional Landfill has been a *regional* landfill since 1964.
- The division is unaware of any mine shafts on the landfill property.

## **Construction & Environmental Monitoring Activities** (Victor Okereke)

### ***Cedar Hills Regional Landfill (CHRLF) Site Development Plan Update***

- In 2007, the King County Council approved the *Solid Waste Transfer and Waste Management Plan* (<http://your.kingcounty.gov/solidwaste/about/planning/documents-planning.asp#export>) which directed the division to explore opportunities for using available landfill capacity to extend the life of CHRLF subject to environmental constraints, relative operating costs and stakeholder interests.

- The division developed several site development alternatives and completed an environmental review process according to the State Environmental Policy Act (SEPA). The division received and considered comments from area residents'; including many people at tonight's meeting. The project Environmental Impact Statement was completed in 2010 and a preferred alternative was recommended.
- The King County Council approved the preferred alternative, Alternative 2, which will add 5-6 years to the life of the landfill and allow expansion into the southwest portion of the landfill and the development of a new landfill Area (Area 8).
- Preliminary design for the new area will start in 2012. Construction will take about three years, and the division expects the new disposal area to be ready to accept waste in 2018 based on the current disposal rates.
- Implementing site development Alternative 2 will help keep solid waste rates low because keeping CHRLF open is the least expensive disposal option.

### ***Construction activities***

1. Interim closure of Area 6 - the division will begin this work in 2011. Interim closure means the temporary closure of an area. Development is done in stages and landfill areas or "cells" are closed progressively. Before interim closure activities begin, the division will install environmental control systems (soil, and pipes to collect leachate, contaminated stormwater, stormwater and gas); construction will be completed in late 2011.
2. Force main pipeline for leachate – in the summer of 2011, the division will be making improvements to the force main pipeline that carries leachate from CHRL to the Wastewater treatment facility in Renton. Leachate is the liquid that is the byproduct of water that has passed through garbage and is collected in bottom drains at the CHRL for treatment at Wastewater's Renton treatment facility. Improvements to the force main include installing access points (cleanouts) for easier maintenance. Construction activities will occur along Maple Valley Highway and Cedar Grove Road and may involve some minor traffic impacts.
3. Landfill Gas Flare Maintenance – the division performs maintenance of the landfill gas flares at the north end of the landfill every year. Because Bio Energy Washington (BEW) does not take all of the landfill gas all of the time, the division needs to ensure the flares are maintained. The maintenance work on the flares will take place this summer.

### ***Environmental monitoring***

The division has more than 150 monitoring wells and probes throughout the landfill site. Those wells and probes monitor groundwater, surface water, landfill gas and leachate on a schedule that is determined by regulatory requirements. Samples are sent to a lab and analyzed. Quarterly and annual environmental monitoring reports are posted on the division's website.

### ***Noise study***

At the community meeting on November 16, 2010, Kiernan stated that the division hired a noise consultant to perform a noise study, but the results were not available at that time. That initial study is now completed and posted on the division's website. The intent of the study was to help identify the types of noise in the vicinity of the landfill and possible sources. Of the 120 hours of noise data collected over three days, (inclement weather affected further data collection) five hours of data indicated noise came from an industrial

source. Since this was only a preliminary study, a further study was recommended. The division is committed to preparing a follow up noise study which will begin in 2011 or 2012.

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

- The pipeline that carries leachate from the CHRLF runs underground down 228<sup>th</sup> Ave. SE to Cedar Grove Road toward Maple Valley Highway. The pipeline runs along the north side of Maple Valley Highway until it empties into a King County Metro line near the old Aqua Barn site and finally to Wastewater's Renton Treatment Facility.
- The Solid Waste Division will include a summary of report findings in the quarterly and annual CHRLF environmental monitoring reports that are posted on the division's website.
- The division maintains five flares at the north end of the landfill property. The flares handle up to 10,000 cubic feet per minute of landfill gas. The flares operate at different flow rates based on BEW's level of operation. The goal is to have 100% of the gas used by the BEW plant 100% of the time. Low level noise may be heard when the gas flow rate fluctuates. This noise may occur when there is an upset condition in the gas field; it is not necessarily related to BEW's operation. Area residents are encouraged to contact the division at 206-296-4490 to report any noise they believe may be attributable from the flares, including a date, time and description of the noise; landfill staff will investigate complaints received.

**The Solid Waste Division's follow-up from Nov.16, 2010 Community Meeting** (Kevin Kiernan)

Kiernan reported on the division's action items from the Nov. 16, 2010 community meeting:

1. *Look into establishing a coordinated reporting and response effort with other area businesses to address neighborhood odor and noise concerns.*

The King County Solid Waste Division is part of a "regional organics summit", comprising solid waste representatives in King, Snohomish and Pierce counties, and Seattle, Health Departments from Seattle, King and Snohomish counties, the Puget Sound Clean Air Agency (PSCAA), and the Washington State Department of Ecology. The purpose of those meetings is to address odor concerns from composting operations in the region in a coordinated manner. Solid waste agencies will financially help regulators so that odor issues can be addressed. These regional organics meetings will continue to occur on a regular basis.

2. *Discuss the reporting of non-landfill related odors with other agencies.*

Discussions between the division and PSCAA have shown that PSCAA receives and investigates odor complaints; they do not find it useful to get observational reports of odor complaints from division employees.

3. *Schedule and notify neighbors of the next Community meeting.*

The division notified neighbors via a mailing, the division's website, notices in local newspapers, and direct email to some neighbors for whom the division has email addresses.

4. *Update the project website and include noise evaluation findings.*

A new website has been specifically developed for CHRLF Community Meetings (<http://your.kingcounty.gov/solidwaste/facilities/cedar-hills-meetings.asp>). Information posted on that website includes meetings notices, agendas, notes, and links to related information, including the recently completed preliminary noise study.

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

- At this time, the estimated life of the CHRLF, which includes the new area to be developed, will support operation until approximately 2024 and perhaps longer. Landfill capacity (and life) depends on several factors, so 2024 is the division's current estimated projection.
- The division determines when to stop placing garbage in an area or cell based on the maximum height restrictions, maximum slopes, and maximum footprint. It's a function of geometry.
- After the landfill closes, it's difficult to say how long it will be economically viable to extract landfill gas. Landfill gas generation increases for about five years after landfill closure, but then decreases. The division has a regulatory responsibility to monitor and maintain the landfill for 30 years after it closes.
- The division is unaware of any mine shafts on the landfill property. The division has installed more than 150 wells and probes as a part of the environmental monitoring system; at no time were mine shafts discovered.
- Cedar Hills Regional Landfill has been a *regional* landfill since 1964. Historically, in the late 1950's there were lots of little landfills throughout King County. With the passage of new environmental regulations, those small landfills closed. King County built its solid waste transfer system in the 1960s, and solid waste was funneled through the transfer stations to CHRLF. In 1960, King County obtained a permit to operate the CHRLF, which only accepts solid waste from King County.
- When the CHRLF reaches capacity and closes, it is extremely unlikely that residential homes will be built on the site. The division has a post closure regulatory responsibility to monitor and maintain the site for 30 years. The division is not involved in the planning of a town or any other similar development at the landfill after it closes.
- The division is working with a group of regional partners to address odor and other issues related to organics. (See above under, "Follow up from Nov. 16, 2010 community meeting" for further details.)
- Copies of complaint logs (complaints received by the division) are available to the public upon request.

**Bio Energy Washington plant update**

(Chuck Packard)

***Plant activity***

Electrical energy is used to operate the plant. Most of the electrical energy is used to process landfill gas, however, some turns into noise. BEW is trying to limit the release of sound to the environment, but the generation of sound by the machinery is inevitable.

BEW's job is to clean up landfill gas and turn it into methane. Methane is cleaner than natural gas. The BEW plant takes odor, carbon dioxide and nitrogen out of landfill gas. Taking the nitrogen out of the gas has been problematic.

The plant began operating in June 2009, but it has not been economically viable for BEW so far. BEW had several months in 2010 when they were able to accept/process almost as much gas as the landfill generated, but in October 2010, the nitrogen rejection system failed and the plant's performance began to deteriorate. The plant is still having problems.

**Sound mitigation activity**

BEW hired Hessler Associates, Inc., a sound consultant, to do a baseline noise study in the vicinity of CHRLF prior to the BEW plant being constructed. That noise study was done in June 2008, and the findings are posted on BEW's website. The Hessler study also suggested ways to decrease noise from the BEW plant, particularly ways to address the "whistle", "groan" and "wheeze" noises.

Packard stated that King County Solid Waste Division staff told BEW that sound would be an issue at the onset of the project. Packard stated that BEW made a commitment to meet the King County noise code, which he indicated, BEW has done. He further stated that BEW intends to meet their own standard for being a "good neighbor."

Timeline of BEW sound mitigation efforts (from BEW PowerPoint shown at meeting):

<b>Date</b>	<b>Action Taken</b>
6/11/08	Hessler's original study
7/9/09	Hessler compliance evaluation (prior treatment)
10/13/09	Phoenix-E noise source identification survey
1/6/10	Omega squared vibration and noise evaluation of tank farm vessels
2/24/10	Double septum acoustical cover installed on V-303A
3/22/10	Enclosure installed at guild valve skid
4/20/10	Chuck meets with neighbor on front lawn to confirm improvements
4/30/10	Hessler's second evaluation (post treatment)
11/16/10	Additional noise concerns raised
1/7/11	Double septum acoustical cover installed on V-1580
2/21/11	Additional guild valve skid noise treatments (e.g. add louvers to enclosure)
2/28/11	Double septum acoustical covers installed on V-31, V-32, V-33 and V-34
4/5/11	1 Fixed mounted and 2 mobile noise monitoring terminals

**Sound mitigation costs**

BEW has spent approximately \$280,000 to date (not including management and internal engineering time) on sound mitigation. BEW has spent an additional \$55,000 on professional grade sound monitoring equipment.

**BEW's follow up from Nov. 16, 2010 Community Meeting**

Packard reported on BEW's action items from the Nov. 16, 2010 community meeting:

1. *Complete installation of further noise reduction measures.* Done.
2. *Have the sound consultant take additional noise readings following their installation.*  
 BEW's sound consultant will review the data collected by BEW using the newly acquired and fully calibrated metering equipment. In that way, several weeks of data can be collected instead of just a few days of data that has been collected during each visit of the consultant. This should be completed by the fall 2011 community meeting after collecting

data over the summer. [Note: the underlined sentence is an update to what was said at the meeting.]

3. *Install a permanent weather station to record wind direction and a permanent sound monitoring station at the plant.* Done.
4. *Procure portable sound recording stations which can be deployed at various places around the area.* Done.
5. *Update BEW website with noise measurement data.* Done. Packard stated that improvements to the BEW website will be made in the next 1-2 months with the hiring of new staff.
6. *Attend future Cedar Hills community meetings to talk with neighbors.* Packard stated that BEW staff are here and will continue to attend community meetings.

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

- The moving of gas in and out of large tanks makes noise. BEW put quilted blankets around the loudest tanks. An acoustical frame building was built around valves that make noise when they open and close. The frame building cannot be completely closed because that would be an explosion hazard, so the upper third of one side was kept open. This area has now been addressed with custom made sound attenuating louvers. Adding the acoustical frame building took care of the “train whistle” noise.
- In addition to installing the acoustical frame building, BEW also put “caps” on the tanks because sound radiated from the top of the tanks. BEW took this action even though most of these noise mitigation efforts will likely have to be removed because the nitrogen rejection system is being modified.
- The weather station monitors the speed and direction of wind.
- The sound monitoring station at the BEW plant is permanent. This will help BEW see if there are sound changes during the day and night. These changes can be compared to sounds recorded by portable “yellow box” noise monitoring units recently acquired by BEW.
- Going forward, Packard said BEW wants “no unhappy neighbors.” BEW will do whatever they reasonably can do to accomplish that goal.
- The nitrogen rejection system will be removed and replaced later this year.
- BEW contributes to the local economy – in providing jobs and spending with local businesses.

***Demonstration of sound metering station***

*(Tom Kennedy)*

- Sound monitoring equipment (demonstrated at the meeting) continually monitors noise. The noise data and time is logged. This professional grade equipment is used in many places throughout the world. Neighbors are encouraged to call BEW if they hear something at night and BEW can check the noise monitoring equipment log to see if the plant was the cause of the noise.
- BEW has three noise monitoring units. One unit is at the plant and two portable noise monitoring units (“yellow boxes”) can be dispatched around the perimeter of the site and to residential locations if noise problems occur. Residents that want to have a portable “yellow box” set up at their location must sign a one-page agreement with BEW for use of the equipment. Residents can keep and use the noise data measured at their location.

## **Questions and Answers**

### ***Compressor noise***

Packard stated that BEW has motors that drive compressors; these are located inside a three-walled sound attenuated building. BEW cannot further reduce the sound from the compressors and motors. A fourth wall cannot be added to the building where the motors and compressors are located because that would create a potentially explosive environment.

Packard stated that sound mitigation is analogous to sanding wood; start by using the coarsest sand paper on the rough spots and progress to using the finest grade. With sound, the loudest sounds are mitigated first and then the quieter sounds are addressed. Packard said that once you get to the end of the progressive noise mitigation, it's no longer a noise level problem, it's a development problem, i.e. people accept low level noise from the environment but just don't like this specific low level noise.

### ***Back up beeper sound***

Kiernan stated that division solid waste trucks stop by 9:30 p.m. The division's shop performs maintenance until 11:00 p.m. with little to no use of back up beepers. The division's landfill security guard does not use a vehicle with back up beepers.

Packard stated that BEW will put a portable noise monitoring unit ("yellow box") at anyone's house that requests one. Residents will have to sign a one-page agreement to use the unit. BEW can then correlate the noise data from the resident's location to the noise measurements taken at the BEW facility to help determine the source of the noise.

### ***Economic viability of BEW plant***

Packard stated that INGENCO/BEW took a financial risk to build the BEW plant and so far, they have not gotten a return on their investment.

### ***Replacement of nitrogen rejection system***

Packard stated that the BEW plant will have to shut down when the nitrogen rejection system is replaced. That will be a two-step process. The first step will be a preliminary fix and will take place this year. The plant will be shut down for about three weeks. The second step will be a longer term fix. There are facilities in other parts of the United States and the world that use nitrogen separation technology. BEW is looking at various solutions to find the best way to fix the problem.

### ***Noise compliance***

Packard provided the following information:

Packard stated that BEW's noise consultant, Hessler and Associates, concluded that the BEW facility is in compliance with the King County Code for noise. Hessler data showed that prior to the BEW plant being built, noise data showed that at times, noise was above 39 dba on the east and west sides of the landfill. Packard stated that after the BEW plant was built, noise readings showed that noise was above 39 dba at times and below 39 dba at times and that this is the same result as before the plant was built. Packard further stated that while the plant is operating within the King County Code for noise, it still creates some sound emissions. He said that the human ear is a very good detector of sound, even at very small levels, and that it's not realistic to have an expectation of no noise from the plant.

Meeting adjourned at 9:10 p.m.