Cedar Hills Regional Landfill Community Meeting Notes
October 23, 2018
King County Library Service Center ● 960 Newport Way NW, Issaquah

In Attendance

King County Solid Waste Division staff
- Scott Barden; Assistant Operations Manager
- Laura Belt; Supervising Engineer
- Bill Berni; Operations Manager
- Neil Fujii; Facility, Engineering, and Science Unit Manager
- Toraj Ghofrani; Engineer III
- Kathy Hashagen; Facilitator
- Annie Kolb-Nelson; Communications and Records Supervisor
- Matt Manguso; Communications Specialist
- Pat McLaughlin; Division Director
- Mark Monteiro; Operations Supervisor
- Meg Moorehead; Strategy, Communications, and Performance Manager
- Glynda Steiner; Assistant Division Director
- Dorian Waller; Government Relations Administrator
- Polly Young; Program Manager

Other King County Staff
- Alan Painter, Community Services Area Manager
- Yolanda Pon, Public Health Seattle-King County

Bio Energy Washington (BEW) staff
- Kevin Singer, BEW Plant Manager

Interested parties
- Margarita Ankoudinova
- David Prochazka
- Janet Dobrowolski
- Keshia Tinnin
- Leslie Morgan
- Karen Dawson
- Terie Lee Taylor-Smith
- Pete Eberle
- Zadka Mikelson
- Rick Brighton
- Kim Brighton
- Michael Newgard
- Becky Newgard
- Rachel Monte
- Lori Smith
- Philipp Schmidt-Pathmann
- Don Partridge
- Sherry Partridge
- Edie Jorgensen
- Bob Shaw
- Corinne Spero
Welcome
Kathy Hashagen began the meeting by welcoming those in attendance, explaining her role as facilitator, and reviewing the agenda. Hashagen introduced Solid Waste Division Supervising Engineer Laura Belt.

Introductions, Meeting Format, Reporting Landfill Concerns
Belt thanked those in attendance for coming before introducing Solid Waste Division (SWD) and other King County staff in attendance. Belt then explained the purpose and format of the meetings, as well as meeting elements:

- Division staff provide information about recent and planned activities at the landfill, and the BEW plant manager will do the same regarding its activities
- Meetings occur twice a year in the spring and the fall
- Notes will be provided on the division’s website that summarize issues discussed at these meetings; the notes are not intended to be verbatim transcripts, but capture the general content of the meeting, including questions and answers

Belt also explained if neighbors need to report a landfill concern they should call the Solid Waste Division at 206-477-4466. It is important to call this number because that is how the division logs and documents calls. That number, as well as contact information for BEW, is available at every meeting on the handout. If neighbors feel the situation is an emergency, they should call 911.

Construction and Environmental Monitoring Activities

Construction Updates on Area 7 and Area 8
Area 7 is currently the main disposal area that began receiving garbage in June 2010. Area 7 will continue to receive garbage until the next cell, Area 8, opens in early 2019. Currently the division’s contractor is covering the remaining side slopes of Area 7. The last phase will involve adding a geo-membrane and soil on top.

Work on Area 8 continues. Excavating work has been completed, and the current phase involves placing a clay liner, followed by a 60-millimeter plastic liner, and then a drain rock on top. After that, the contractor will install a pumping system to collect and remove leachate. Landfill gas collection pipes will be installed as garbage is placed in the new area. SWD expects to begin filling Area 8 in early 2019.

Groundwater Quality
The Regional Aquifer is the main focus of the division’s groundwater monitoring. At Cedar Hills, groundwater flows from the south toward the north/northeast. The key component the
division looks for is the quality of the water that leaves the landfill property. Currently that water quality is unchanged, has been consistent, and the division is meeting all regulatory limits.

There are more than 60 groundwater wells throughout the landfill that are used to monitor groundwater. The division checks the water quality in 38 of those wells, including some wells in the southern portion of the landfill that show the quality of groundwater flowing onto the site from adjacent properties. The division has detected some changes in groundwater flowing onto the site from the south. These changes do not pose health concerns, but are more aesthetic in nature that affect the appearance and taste of the water. By the time the water flows off-site – no one can drink the water in between – none of those aesthetic qualities are showing up. The division also monitors four offsite drinking water wells once a year, and those are stable and consistent with quality standards.

All reports related to groundwater monitoring, including quarterly and annual reports, are available on the division’s website https://kingcounty.gov/depts/dnrp/solid-waste/facilities/documents.aspx#cedar_reports.

Perched Zone
As has been mentioned at previous meetings, there is a small, shallow groundwater zone on the east side of the landfill that is in a tight, silty formation with minimal flow. The area has had some impacts from past landfilling activities. This was first discovered in the late 1980s. In the 1990s, the division installed an extraction well to pump and treat the water. The division is working closely with the Washington State Department of Ecology to monitor and address the perched zone. In June, the division installed six new wells, three new gas probes, and decommissioned the extraction system, which was not functioning correctly. All monitoring efforts and results related to the perched zone can also be found in the quarterly and annual reports on the division’s website https://kingcounty.gov/depts/dnrp/solid-waste/facilities/documents.aspx#cedar_reports.

North Flare Station Maintenance
The division has been conducting maintenance to North Flare Station, which uses blowers to pull gas from the landfill and transmit it to BEW for purification. The blowers are being replaced to ensure they remain reliable. Beginning Oct. 25, the division will conduct maintenance at the North Flare Station to make connections to the equipment. This maintenance requires shutdown of landfill gas blowers two to three times for up to two hours at a time. This work will continue until the end of November. The division sent neighbors a notice announcing the work and alerting neighbors that they could notice landfill gas odors during these brief two-hour shutdowns. Neighbors can call the Solid Waste Division at 206-477-4466 if they notice any of those odors.
House Demolitions
The division recently purchased houses on the east side of the landfill and will soon begin the process of deconstructing two of those houses, salvaging as many materials as possible and returning the property to a natural state. A notice was sent to nearby neighbors who may notice this activity while the houses are taken down beginning in November.

Comprehensive Solid Waste Management Plan Update (Meg Moorehead)
As has been reported at previous meetings, the division has sent its Solid Waste Comprehensive Plan (Comp Plan) to the King County Council for action. The Comp Plan is the blueprint for how the division will manage the county’s waste over the next 20 years. Current Interlocal Agreements dictate that the division will need to provide disposal services for its 37 partner cities (all King County cities except Seattle and Milton) through 2040. For two years, the division worked closely with its partnering cities, as well as its two advisory committees – the Metropolitan Solid Waste Advisory Management Committee (MSWMAC) and the Solid Waste Advisory Committee (SWAC) – to develop the Comp Plan. The three major policy issues discussed in the Comp Plan relate to increasing recycling, improving services at county recycling and transfer stations, and future disposal options.

The division relied on models to estimate how much garbage and other materials will come through the regional solid waste system in the coming years. Garbage tonnage tends to follow the economy; a good economy results in more garbage disposed, and a bad economy results in less garbage disposed. The division currently sees steady tonnage growth in the regional system, which means we need to make sure our facilities are large enough to accommodate the tonnage.

In regard to recycling, the division has set a goal of a 70 percent recycling rate and there are many programs currently underway to achieve that. Currently the county is only at a 54 percent recycling rate and has stalled there in recent years. The Comp Plan maintains that 70 percent recycling rate goal and provides the cities and the unincorporated areas with a menu of options they can choose from to increase recycling. The “menu” option was chosen because of the different areas of the county – some being more residential, some more commercial, and others a mix of the two. The Comp Plan also allows for flexibility in the way we handle recycling in the future to be able to respond to changes in recycling markets, such as with the recent restrictions on import of recyclable materials imposed by China.

China has recently been ramping up restrictions on recycling imports. When recycling gets picked up at the curb it is sent to a Materials Recovery Facility (MRF) where it is sorted and baled. That bale is then sold to companies that recycle the materials into new products. China used to be the region’s major importer of plastics and mixed paper, but in the beginning of the year they cut those imports because there was too much garbage and other contaminants in the bales, which makes it harder for them to recycle the materials. As a result of the contamination,
China said the region needed to do a better job of reducing contamination in recyclables and restricted import. The main materials affected were plastics and mixed paper. Even though those materials represent only 14 percent of the material we collect for recycling, it was a big disruption to the regional recycling markets. In the months since, recycling collection companies have found new places to sell those materials, but we want to make sure we’re all recycling right, and the best way to accomplish that is by making sure your recyclables are empty, clean, and dry.

When garbage is picked up at the curb it goes to one of 10 facilities in the transfer system where it is consolidated and then taken to Cedar Hills for burial. Since 2007 Solid Waste Division has had a plan for modernizing the transfer stations. Those stations were built in the 1960s and did not have modern features such as noise and odor controls and they weren’t designed to accommodate recycling or other services. All of the urban stations have either been modernized or updated, or have begun to be modernized with the exception of the Houghton Transfer Station in Kirkland. It’s a small station but our third busiest and located in one of the fastest growing areas of the county. One of the questions asked while developing the Comp Plan was should we build a new, modern recycling and transfer station, keep Houghton the way it is, or develop some combination of those two options? In the plan that was sent to the King County Council it was recommended to build a new facility so we can add new services, have compaction to reduce truck trips, and environmental controls. It is the most expensive option, but it’s in line with the cost of modernizing other stations.

The third major policy decision in the Comp Plan was how we handle garbage disposal in the future. Currently we estimate we have capacity at the landfill until 2028, but we’re constantly estimating how fast or slow we’re going to fill up based on a number of factors. The Interlocal Agreements state we must provide disposal services until at least 2040. To ensure we provide those disposal services we looked at three alternatives – build more capacity at Cedar Hills, export the waste via rail to out-of-county landfills, or construct a waste-to-energy (mass burn) facility somewhere in King County. The plan sent to council recommended further development of Cedar Hills.

Further developing Cedar Hills was the lowest cost option we evaluated, as well as having the least environmental impacts as measured by greenhouse gas emissions. There are higher greenhouse gas emissions associated with export due to transportation emissions, and when you burn garbage in a waste-to-energy facility you also create emissions. With the onsite BEW facility, the landfill is able to offset fossil fuel consumption with the renewable natural gas created from purifying landfill gas.

There are risks associated with each disposal alternative. Siting an incinerator would be challenging because the size of the facility we would need to construct to be able to handle our
tonnage would make it one of the largest in the world. For export, there is a lot of competition for rail space, and we would also need to privatize a big part of our system. With the landfill development alternative, the risks include environmental review and permitting.

At the last meeting in April, the 60-day public comment period had recently concluded. During that period, the division held three open houses throughout King County to inform residents about the Comp Plan, as well as posted information on its website and social media channels. There were nearly 70 formal comments received, which were addressed in a revised plan that was sent to the King County Council in July.

Though the division expected the council to act on the Comp Plan at some point in 2018, the council has suspended its work on the Comp Plan to focus on the budget and will most likely take the Comp Plan up again at some point in 2019. If the council decides to approve the Comp Plan, it will be sent to the cities, which will have 120 days to decide whether to ratify the plan or not. If ratified, the plan will go to the Washington State Department of Ecology for ultimate approval. Neighbors still have the opportunity to make their voices heard on the Comp Plan by following the King County Council website (https://www.kingcounty.gov/council.aspx) to see when they will hold a hearing on it.

Operational Activities
(Scott Barden)

Vegetation Maintenance
During the spring and summer, the division focused on maintaining vegetation around the landfill, specifically around the buffer. Six employees were hired for the summer to help conduct this maintenance work, which included weeding and moving around pipes, headers, fences, and roads. If neighbors notice any downed or leaning trees along the fence line, they are encouraged to call the division so it can be taken care of.

Landfill Tours
On Oct. 20, the division held a tour that 35 people attended. It was an energetic and fun group that had a lot of good questions about the active area, Area 8, construction activities, and future updates. In 2017, the division held 86 tours and so far in 2018 there have been 85 tours. Neighbors are always welcome to request a landfill tour and the division is happy to provide those. Neighbors can call the Solid Waste Division if they would like to set up a tour.

Question and Answer
The following is a summary intended to capture the general content of the questions asked and the answers provided; not a verbatim transcript.
Why was the extraction pump in the perched zone removed?

- The pump was not effectively removing the groundwater, the division is exploring other ways to extract it.

Has the forester come and checked on the trees and vegetation in the western buffer?

- The last time the forester came out to the landfill to assess the trees in the western buffer was in April 2016. At that time, she reported that it is a healthy forest going through a normal succession from deciduous to evergreen trees. The division could remove deciduous trees and plant new evergreen trees, but those would need time to mature and would result in less of a buffer. The division has decided to take the recommendation of the forester to perform regular monitoring of the health of the forest every two to three years. The forester the division worked with last time is no longer working for King County, so the division is waiting to hear back on who it should contact.

- The following information was learned after the October meeting: The division is also working with a landscape architect from King County Roads who is working on a plan to add more trees to the western buffer. The division will updates its neighbors on this plan, as well as what it heard from the forester at the spring meeting.

Was the unincorporated area included in the Comp Plan discussions?

- The division worked with all communities in King County to inform them about the Comp Plan and make sure they knew how and when to comment on it. An open house about the Comp Plan was held in Issaquah, and several unincorporated area councils were briefed on the Comp Plan.

Do any landfill neighbors sit on the Solid Waste advisory committees? How can landfill neighbors be a part of the advisory committees?

- The division has two advisory committees – the Metropolitan Solid Waste Management Advisory Committee (MSWMAC) and the Solid Waste Advisory Committee (SWAC). MSWMAC comprises staff and elected officials from the cities that participate in the county's regional solid waste system. MSWMAC members are appointed by their respective cities. SWAC members are appointed by the Executive and confirmed by the King County Council. SWAC members represent the diverse interests of residents, waste management companies, the recycling industry, public interest groups, labor, local elected officials, recyclable markets, and manufacturers located in King County. SWAC would be the committee landfill neighbors could serve on.

- Landfill neighbors have served on SWAC in the past, but none did during the two years the committees were helping develop the Comp Plan. This was not intentional, but serving on the committee does require a commitment – meetings are held each month, usually in downtown
Seattle at King Street Center – and no landfill neighbors have come forward requesting a seat on the committee. There are opportunities to serve, and any interested residents are encouraged to visit the advisory committee website (https://kingcounty.gov/depts/dnrp/solid-waste/about/advisory-committees.aspx), or contact the division’s Government Relations Administrator Dorian Waller if they are interested in serving. Dorian can be reached at dwaller@kingcounty.gov or by calling 206-263-1368.

Who gets to vote on the Comp Plan?
- If the King County Council, which has members representing unincorporated areas, votes to approve the Comp Plan, it is then sent to the division’s 37 partnering cities for ratification. In order for the Comp Plan to be adopted, it must be approved by the King County Council, and approved by cities representing 75 percent of the population of cities that vote on the Comp Plan within 120 days of receiving it.

How else are unincorporated areas represented? (This question was answered Alan Painter, Community Services Area Manager)
- King County recently developed a new Department of Local Services (https://www.kingcounty.gov/depts/local-services.aspx) that will respond to local needs and improve service delivery in the unincorporated areas of King County, which have a population that is equivalent to the third largest city in the County. The department is being led by John Taylor and will begin operations on Jan. 1, 2019.

Has there been a study conducted on how proximity to the landfill affects the students and staff at Maple Hills Elementary School. How can we see those results? If a study isn’t or hasn’t been conducted, can one be done? (This question was directed to representatives from Public Health-Seattle and King County)
- Yolanda Pon from Public Health-Seattle and King County responded to this question, and stated that she was not aware of any study ever conducted, but she will be looking into it with her department’s toxicologist and leadership to see if one was done, what the results were, and what any next steps would be.

What are the risks of building a waste-to-energy facility compared to continued landfilling?
- If a waste-to-energy facility were to be built, the division assumes it would be built to modern standards designed to protect human health. When discussing risks earlier in the meeting, what was meant was that trying to site and construct such a facility would be challenging. It would need to be very large in order to handle the amount of waste produced in the county. That large of a facility could be difficult to site and complete between now and when it would need to begin accepting waste. The cost associated with constructing such a
facility is also considered a risk. Due to various circumstances, such as cost of electricity, unavailability of renewable energy credits, and inability to reuse ash, a waste-to-energy facility does not pencil out as well in the Pacific Northwest as it does in places like Europe and Florida which have smaller facilities and higher electricity costs.

• The division does not do extensive air quality monitoring around the landfill or in neighboring communities. Most of the monitoring is done at BEW and the North Flare Station to ensure any emissions coming out of those facilities are within regulations and safety standards.

**Who did the analysis of the three disposal alternatives in the Comp Plan?**

• Since the division is not an expert in waste-to-energy, it hired a waste-to-energy expert consultant to analyze the waste-to-energy alternative. This consultant was recommended by decision makers in King County. For the waste export alternative, the division consulted with local, neighboring jurisdictions like Seattle and Snohomish County, which export waste via rail. The Solid Waste Division analyzed the further development of the landfill. Those analyses were compiled by the Solid Waste Division and included in the Comp Plan.

**The landfill needs high tech equipment and monitoring near my home/the division needs to put proper equipment on the landfill so neighbors know what the air quality is.**

• The Solid Waste Division can look into this.

**What happens to the garbage that sits beneath the tarp at night? What happens when it is removed in the morning?**

• Active area side slopes are covered with soil every day, and a thick, durable cloth tarp is placed on the top at the end of each working day. When the tarp is covering the area, the landfill gas collection pipes are operating on a vacuum to capture any landfill gas and send it to BEW for processing.

**Why does waste-to-energy pencil out in Florida but not here?**

• Electricity produced by waste-to-energy facilities can be sold at a higher price because it is considered renewable. Washington doesn’t consider waste-to-energy to be renewable. Although state law could change, the Comp Plan was based on current regulations. Other examples of regulations that could be changed include classifying the residual ash from an incinerator as non-hazardous so it could be used for other purposes.
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*How big would a waste-to-energy facility need to be?*
- Given the time needed to site and build a facility, the Comp Plan assumed the facility would be big enough to handle tons in the regional system for 20 years. After 20 years, an additional facility or supplemental disposal method would be needed.

*Why didn’t the division begin planning for this earlier?*
- This is part of the history of the Comp Plan. The last one was updated in 2001 and directed the division to maximize Cedar Hills and then export the waste. The state requires the division to review the plan every five years. Attempts were made to do that but a number of things got in the way. When the Great Recession hit, the tonnage reduced and people felt we might not need more facilities and we were directed to do other studies before updating the Comp Plan. In 2013, we were in the process of updating the plan, but we were sent back by county leaders to re-evaluate our transfer system, so we spent a number of years on that.

*Is the cost of litigation included in the Comp Plan?*
- No, we did not include litigation costs as part of any future disposal option.

* Didn’t a lawsuit agreement require the landfill to be covered with dirt each night? Did that change? If so, when? Is a tarp more effective than soil?*
- The type of cover the division is allowed to use is not based on any lawsuit agreement or settlement, but is decided by regulators. The division is allowed to request permission to use alternative (something other than soil) daily cover. In 2005 we applied to use a tarp as daily cover in lieu of dirt and began using the tarp once we received permission.
- The purpose of daily cover is to control vectors, such as rodents and other pests, as well as provide litter control. The tarp is just as effective as soil when it comes to keeping animals out of the garbage and helping to prevent litter.

*Sometime in the past someone came to my house and said he was conducting an air quality study and asked if he could put monitoring equipment on my property? Can that study continue, or a new air quality study occur?*
- The division is not aware of such a study, and it could have been conducted by a different entity.
- *This information was gathered after the meeting:* The division is currently in the process of evaluating the feasibility of different types of air quality monitoring within the site and will discuss the options available at the spring meeting.
**When were the Interlocal Agreements (ILAs) signed?**
- The Solid Waste Division has had ILAs with county cities for many years, and the latest version, which was updated in 2013, lasts through 2040.

**Why did the division sign ILAs through 2040 if they didn’t know if the landfill would be able to accept waste until then?**
- The ILAs say we must provide disposal services through 2040, but it doesn’t say how to go about it and we didn’t presume either continued landfilling, waste export, or waste-to-energy. The duration of the ILAs allows financing recycling and transfer stations via 20-year bonds, which ultimately saves ratepayers money. We look for longer partnerships to ensure we receive the tonnage that provides the income to pay off those bonds.

**What happens if the landfill doesn’t make it to 2028?**
- It’s a regional problem because everyone has garbage and they are relying on the County to dispose it. We have obligations within that timeframe to provide disposal. We’d have to work fast on how we do it if we can’t further develop Cedar Hills. That’s one reason why we evaluated the three options in the Comp Plan.

**When studying the greenhouse gas effect was methane taken into account or was it just carbon dioxide?**
- The greenhouse gas analysis converts methane emissions into the metric tons equivalent of carbon dioxide.

**How do you know you’re collecting 95 percent of the landfill gas generated at the landfill?**
- There are models we are required to use that predict how much gas would be generated by waste. The amount of gas we measure that is collected is larger than what the model predicts we would generate. It would suggest that the model is not completely accurate. There are always assumptions, but those change over time. Garbage composition changes because of recycling, we do waste screening, but they are estimations. We look at this and we know we aren’t collecting more gas than we’re generating. The Environmental Protection Agency has a system that tells you how much gas you would lose based on size and cover. We are collecting methane converted to a carbon dioxide equivalent.

**Is the entire facility moving or just part of the facilities?**
- The division has support facilities (shop, admin, work spaces, etc.) in the space that is permitted for refuse, so we need to move those either within the landfill or offsite if we get permission to build a new refuse cell. The landfill reserve fund pays for landfill development,
maintenance and monitoring, not constructing of office and shop facilities. The 2019-2020 budget includes an $80 million project for that relocation.

**What quality controls are in place at transfer stations to prevent people from throwing away toxic materials that end up in the landfill?**
- We have waste screeners that are trained to spot illegal dumping of toxic materials, and transfer station operators go through special waste training. We also provide household hazardous waste services at our facility in Factoria and at other sites around the county so people aren’t tempted to put those materials in with regular garbage. We are trying to maximize the number of people monitoring the loads coming in.

**Is the Solid Waste Division willing to hold future heights to 788 feet?**
- We comply with the settlement agreement and intend to continue to comply. The height limits referred to in that agreement were on specific areas of the landfill. The reason the permits go higher is because it covers the entire landfill. The Comp Plan doesn’t commit to any particular development form or specify how we will further develop the landfill. It did say “up to 830 feet” because it’s a possibility but not a certainty that the landfill could be developed up to that height in certain areas. What we are permitted to do does not mean that’s what we will do. We fully recognize we have a legal settlement. There has been no commitment on the size or shape of future developed areas. We have many design options that would be decided as part of future design, permitting and environmental work.

**Can the division ask the King County Council to revise the Comp Plan in regard to height limits?**
- The Comp Plan does not specify the form or ultimate height of landfill development. A draft council-generated Comp Plan amendment adds discussion of the provisions of the settlement agreement, including height.

**Bio Energy Washington (BEW) Plant Update**

*(Kevin Singer)*

*During the meeting, those in attendance agreed to skip updates from BEW so they could continue asking questions to Solid Waste Division employees. This is the update BEW was planning on giving at the meeting.*

**Plant Operations**
- Staffing is 24 hours, 7 days week, 52 weeks per year. Each gas plant technician undergoes a qualification process of at least 90-days before working without supervision. Minimum of two qualified plant technicians are on-site at all times.
- Maintain a hotline for any concerns: 425-392-3918
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**Health and Safety**
- No injuries recorded at the plant in the past six months.
- No environmental permit exceedances in the past six months.
- Annual emissions testing begins next week to meet Puget Sound Clean Air Agency permit requirements.
- Continue to focus on proactive steps to prevent injuries that engage all employees. Examples include new ladders and upgraded safety equipment.

**Environmental Compliance**
- New catalysts being tested on our power generation system for increased catalyst life to reduce engine exhaust emissions (NOx).
- Recognize that the Solid Waste Division has environmental requirements that it must adhere to when collecting and delivering gas to BEW. Fully supportive of the mission to minimize GHG to the environment and maximizing renewable gas for beneficial use.

**Continuous Improvement**
- Uptime for the plant in 2018 is 97 percent. Highest yearly uptime in records.
- BEW and the Solid Waste Division have continued daily coordination to help improve communications and share best practices routinely.
- Completed replacement of insulation in our Thermal Oxidizer in August 2018.
- New sulfur removal media that was installed in March is performing well. 100 percent sulfur removal by this media. Plan to monitor life and change in early 2019.
- Investigating strategies to increase flexibility around variable landfill gas quality. We have to compensate for different conditions (rain, barometer) and want to be able to recover as much gas as feasible.

**Upcoming Projects**
- No significant modifications or changes planned that will adversely affect noise, odor, or the community. Most of our work involves inspections, routine maintenance, and changing media that scrubs the landfill gas.