

Solid Waste UPDATE



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Get Caught !

Plumb Thicket MSW Landfill

by Sam Sunderraj, Bureau of Waste Management

On September 16, 2005, KDHE issued Municipal Solid Waste Landfill Permit # 0842 to Waste Connections of Kansas Inc. to operate the Subtitle-D Plumb Thicket Landfill which received its first load of waste on January 19, 2006. The landfill is permitted for disposal in approximately 230 acres in a 960-acre site in northern Harper County; a new site that had not been used for disposal of solid waste before that time, viz. a greenfield site.

In 2001, the City of Wichita elected to stop operating its MSW landfill. Waste management companies established transfer stations, from which solid waste was transferred to other Subtitle D Landfills in Kansas and Oklahoma. Presently, Plumb Thicket receives waste from these

City of Wichita transfer stations and from several other transfer stations in nearby counties amounting to about 1,200 tons per day. Most of the municipal solid waste is brought in on tractor trailers that are unloaded by a hydraulic tipper at the landfill. This tipper is periodically moved as the active face of the landfill moves.



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Are You Ready for Tornado Season?

by Bill Bider, Director, Bureau of Waste Management

By the time you read this article, we will be well into the 2014 tornado season. Over the past decade, most Kansas tornados have occurred in late May and early June; however, we started early this year on April 27 when an EF-2 tornado hit Baxter Springs destroying about 100 homes and a dozen or more

businesses while damaging many other structures. Numerous injuries resulted but thankfully no deaths were attributed to this storm. And, as usual, local officials with help from the state and our neighbors from Joplin, Missouri stepped up quickly to manage the estimated 30,000 tons of generated debris.

As this newsletter goes to print, we are entering the most intense part of the tornado season so it is wise to consider the following question: “Are you ready to deal with the debris management challenges of a major tornado in your city or county?” If not, you should begin thinking

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KDHE Issues Permit for Waste Tire Pyrolysis

by Shelley Schupp, Bureau of Waste Management

KDHE reviewed and approved an application from Blizzard Energy, Inc., to establish and operate a solid waste processing facility in Great Bend for pyrolysis of processed waste tires. Pyrolysis is a process of thermal decomposition in an oxygen starved environment in enclosed units. The proposed facility will receive processed (cut) waste tires from an adjacent, permitted tire processing facility.

The pyrolysis process will convert the waste tires to the following products:

- The pyrolysis oil will either be sold as a product or will be refined on-site into petroleum products such as gasoline, diesel, naphtha, and fuel oil.
- The carbon black will be milled into micron-size final product and bagged for sale.
- The steel wire will be sold as scrap metal.
- The synthetic gas is recycled as fuel for the on-site burners.
- This facility is the first of its kind in Kansas.



The Yard Waste/Organics Debate

Composting vs Landfill Disposal with Gas Collection; Positives and Negatives

by Bill Bider and Ken Powell, Bureau of Waste Management

In recent years, there has been a growing debate about whether it is best to separately collect and compost yard waste and other organics, or dispose of them in MSW landfills that have active gas recovery and reuse systems. There are differing perspectives and factors to consider including greenhouse gas emissions, landfill space conservation, life-cycle analyses associated with separate collection practices, compost utilization and benefits, and the effects of the presence of wet organics on overall waste decomposition and landfill stabilization. This is definitely a complex issue and this article will not exhaustively summarize available information.

Ken Powell has been our bureau's strongest supporter of composting over the past 20 years and has been generally critical of landfilling compostable organics. I asked Ken to evaluate the comparative benefits of both options, so he did some research. Below is a summary of what Ken found focusing upon the carbon/greenhouse gas emissions associated with landfilling versus composting of organics, mainly yard waste.

Ken's Findings

A study was conducted by Sebesta Blomberg for the City of Des Moines, Iowa. This was an exhaustive study comparing separate pickup of yard waste for composting versus landfilling all of the waste. They included fuel usage, truck trips, transfer station usage, composting equipment, landfill equipment, methane capture, methane usage, and several other factors. Each factor was looked at for the amount of carbon equivalent that would be allowed to escape into the atmosphere or would be prevented from escaping into the atmosphere. Their conclusion was that both composting and landfilling with gas capture and use would be carbon positive. In other words, both scenarios lower the amount of carbon Des Moines is putting into the atmosphere. They also concluded that landfilling, with usage of the landfill gas produced, would lower the amount of carbon going into the atmosphere by almost 5 times more than composting. This study makes a fair case for landfilling.

A second study published in Bioresource Technology (Aug. 2009) was a review of current literature on the subject of landfilling and composting comparing greenhouse gas emissions. A major conclusion was that without capture and usage of the landfill gas, landfilling was a big negative in terms of greenhouse gas release. The main conclusion of the paper was that landfills with capture and use of the gas is comparable to composting with both having a positive impact on carbon release. Composting held a slightly larger positive position.

From a carbon capture/greenhouse gas release standpoint it appears that composting and landfilling of organic waste are nearly equal if the landfill gas is beneficially used. If the gas is either captured and flared or not captured, composting would have a large advantage.

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Earth Day State Park Cleanup Event

by Megan MacPherson, Bureau of Waste Management

Five Kansas parks were selected for a "Keep It Clean Kansas" cleanup event on April 26. Scott State Park in Scott City, Cheney State Park in Cheney, Tuttle Creek State Park in Manhattan, Clinton State Park in Lawrence and Crawford State Park in Farlington were cleaned up in recognition of Earth Day. The event was sponsored by the Bureau of Waste Management (KDHE), the Kansas Department of Wildlife, Parks and Tourism and Westar Energy. Good weather brought out 200 volunteers across the five parks with volunteers receiving lunch and a t-shirt for their efforts. We are looking forward to another great event next year! Consider being a part of this fun and worthwhile event in 2015.



Small Arid Landfill (SAL) Workshop

July 2, 2014
Garden City, Kansas

- Operations and maintenance requirements
- Groundwater issues
- Recent inspector observations
- Closure & post-closure unit costs and estimating guidance
- Operational safety issues, challenges, and solutions
- Panel discussion

For more information contact

Dennis Degner
ddegner@kdheks.gov
785-296-1601



Wastes that are Exempt from the Landfill Tonnage Fee

by Christine Mennicke, Bureau of Waste Management

The State of Kansas solid waste program is funded entirely through fees paid by solid waste facility owners and operators. The money that is generated is used to pay salaries for staff who issue permits and monitor facilities, to clean up dump sites, and to provide grants to encourage responsible waste management practices.

The Kansas Department of Health and Environment (KDHE) receives \$1 for each ton of solid waste placed in a landfill, or transferred to another state, with the following exceptions:

- Waste tires
- Sludge from public drinking water supply treatment plants, if placed in a monofill
- Clean rubble, unless it is mixed with other construction and demolition (C&D) waste
- Vegetation from land clearing and grubbing, utility maintenance, and seasonal or storm-related cleanup. Please note that yard waste is **not** exempt from the tonnage fee.
- C&D waste generated by a government entity in Kansas, or anyone acting on the government's behalf
- Industrial waste, if the landfill is owned or operated by the facility generating the waste and is used only for industrial waste from that facility
- Natural disaster debris, if the landfill has received a waiver from KDHE. The facility must pass this savings on to the people who are bringing in the disaster debris

Material that is put into the landfill only for use as cover (e.g., dirt borrowed from on-site or purchased cover material) is exempt from the state tonnage fee. However, use as alternative cover material does **not**, in itself, exempt waste from the tonnage fee. For example, the tonnage fee must be paid for each ton of petroleum-contaminated soil or other special waste that is put into the landfill, whether or not it is used as cover. On the other hand, since shredded waste tires are exempt from the tonnage fee, they remain exempt if they are approved for use as alternative cover.

If you have any questions concerning tonnage fee payments, you may contact Candy Williamson (cwilliamson@kdheks.gov, 785-296-1540) or Christine Mennicke (cmennicke@kdheks.gov, 785-296-0724).

When Does a Product End its Usefulness and Become a Waste?

by Bob Medina, Bureau of Waste Management

Several factors must be considered when determining if something is classified as solid waste.

1. Weather often causes usable products to become waste. Wood sitting out in the elements commonly loses reuse value. A starter from an engine sitting out in the elements may become frozen solid and no longer usable due to rust. A mattress exposed to the elements quickly becomes waste. These and other examples demonstrate that items that are exposed to the elements often become solid waste.
2. Time stored and exposed to the weather or natural process of decay is another factor that will impact the usability of stored items.



These factors are considered when determining whether an item can be used for its original intended purpose or whether it has no viable use except to recycle the material. If there is no use or recycling value, the items must go for disposal at a permitted landfill.

The Bureau of Waste Management over the years has had many challenges when working with responsible parties who store items, often mixed with miscellaneous trash. Recently, a new approach has been worked out combining the use of an access agreement and a consent agreement. This use of our new document has shortened the legal process when working with responsible parties who have no financial or physical means to clean up an area they have created. This process

does still keep the integrity of the cost recovery process in tact and allows the local government and state to work



together with the responsible party to clean up all solid waste.

One last consideration relates to stored items that may have sentimental or even historical value to the person storing them. We try to be sensitive to personal desires to keep such items but we do balance that sensitivity with local community goals related to aesthetics and the protection of public health.

Yard Waste/ Organics Debate

Composting vs Landfill Disposal with Gas Collection; Positives and Negatives

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Bill's Comments

While like Ken I support composting, I consider the greenhouse gas emissions comparison to be a minor point compared to other beneficial factors, such as the production of a valuable agronomic product. It is also good to save landfill space, but organics which are usually disposed wet along with abundant bacterial populations tend to degrade quickly and they may even contribute to the degradation and stabilization of other landfilled waste such as dry paper. The collection and use of landfill gas also reduces the use of non-renewable fossil fuels and it has monetary value. Separate collection or transport of organics to landfills causes other natural resource and safety impacts by adding truck traffic and fuel consumption.

There is so much more to consider and evaluate regarding this issue including complex economic assessments. One thing is clear - - there are advantages to composting organic wastes or disposing of such materials in landfills with gas collection systems compared to disposal in landfills without gas controls.

Post-Closure Care and Financial Assurance Workshop

by Carl Burkhead, Bureau of Waste Management

A BWM workshop on Post-Closure Care (PCC) Reduction/Termination and Unit Cost Updates was held in Salina on May 7. The purpose of the first and major part of the workshop was to equip landfill owners/operators with the basic skills needed to prepare a PCC termination plan. The workshop introduced two new policies and two new and one updated technical guidance documents (TGDs) for Subtitle D landfills to facilitate the plan preparation so that PCC activities related to the 30 year mandatory PCC requirement could be reduced and/or terminated.

The new policies are related to permit renewal requirements for PCC monitoring systems and for the

reduction and/or termination of PCC activities. The TGDs included a new one for the preparation of PCC reduction and/or termination plans; and for the development of sampling plans for leachate (revised) and landfill gas (new). Other useful references were cited. Electronic copies of the documents were provided in advance of the meeting so that attendees could be better equipped for the various presentations. Hard copies of the policies and TGDs were provided at the meeting.

The Unit Cost Updates constituted the second part of the workshop. Its purpose was to report on the results of the 2013 Financial Assurance (FA) workshops in Garden

City and Emporia, an analysis of the submitted annual reports and to provide attendees with the latest unit cost information for the preparation of closure and PCC cost estimates for July 2014 and June 2015.

An extensive discussion followed the planned presentations. Several issues were raised which will help BWM staff to propose new regulations related to PCC termination for all types of landfills.

The workshop was attended by all of the Subtitle D landfills owners/operators and/or consultants who were invited by their landfill hosts. Also, several BWM staff from the Solid Waste Permitting Section attended the workshop.

Tornado Season

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and planning about many of the requirements that will arise. You should know that KDHE will immediately be there, as we were the morning after the tornado hit Baxter Springs, to help you make decisions and implement practices that efficiently move debris while protecting public health and the environment. Nevertheless, here are some things that you should be considering in advance of an event:

- Where would you dispose of debris? Would you use different disposal sites if different cities are hit?
- Can your existing permitted facilities handle minor amounts of debris? How much? Do any old city or county landfills exist that could be reopened for the tornado debris?
- Would your selected disposal site(s) have room to accommodate other needed waste staging and processing? For example, space is needed for separate piles of trees and brush (to burn or mulch), recyclable metal, appliances/white goods, electronics, waste tires, and household hazardous chemicals. Could the site handle traffic flow in and out in an efficient manner? Would additional rock need to be brought in to build new roads and ensure that traffic flow would not be impeded?
- Do you have enough personnel to operate an expanded waste processing and staging area or would help be needed, especially for the enhanced waste screening that would take place at the disposal area? Who would manage the waste processing area?
- Who would provide citizens with the information they need to properly segregate debris at the curb to maximize collection efficiency and minimize disposal problems? This information must be immediately and repeatedly distributed for a few weeks.
- Is your city or county part of a regional HHW or recycling program that could help participate in debris management efforts? Do you have colleagues in nearby communities who could help supervise debris management activities or provide equipment?

Within KDHE and the state emergency response plan, I am the primary debris coordinator who can usually mobilize to the command center within a day to help local officials and other responders make informed decisions. At times, KDHE district environmental administrators may also perform these duties. This becomes more likely if multiple tornados occur within a short timeframe. Other Bureau of Waste Management or district office staff may also help with debris management duties including the monitoring of disposal sites, the expansion of disposal areas, and setting up of debris management systems.

Solid Waste Tonnage Fee Revenue Continues to Drop

by Bill Bider, Director, Bureau of Waste Management

When the recession hit in late 2008, solid waste disposal dropped significantly in Kansas and throughout the nation, and state tonnage fee revenue dropped accordingly. The number of tons disposed in state fiscal year 2009 (July 1, 2008 to June 30, 2009) decreased from 5.12 million tons in FY 2008 to 4.48 million tons; a drop of 640,000 tons. The decrease from FY 2007 before any of the recession's effects was 868,000 tons. Even though recycling has gradually increased each year from 2007 until present contributing to the decrease in disposal, it was initially thought that the effects of the recession would lessen and disposal would gradually increase, even not if fully to the 2007/2008 level. This has not happened.

Disposal has remained fairly flat since FY 2008, except for the tonnage associated with the Joplin tornado which was primarily disposed of in FY 2012 (about 300,000 extra tons). Disposal in FY 2014 appears to be headed for the lowest total ever since

good records have been kept (20 years). Unless a major change occurs during the final quarter of the fiscal year, disposal will be about 1.2 million tons less than disposed of at the peak level in FY 2007. A table showing tonnage fee revenue from FY 2007 to present is provided.

The implications of this major drop in waste disposal are both positive and negative. On the positive side, landfill disposal capacity is being conserved and disposal costs for generators of waste are much less; about \$25,000,000 less. However, private companies and local governments that own and operate landfills are receiving that much less in revenue and KDHE is not collecting the one dollar per ton on the reduced tonnage. KDHE's entire solid waste program is funded on waste fees, about 95 percent from landfill tonnage fees. No state general funds are used to support this program.

KDHE has cut back expenditures in a major way over the past five years in accordance with the reduction in

revenue. Much less is spent on waste reduction and HHW grants, city dump repairs, illegal dump clean-up, waste sweeps (such as mercury and school lab chemicals), and public education and outreach. Unless additional revenue is generated in the near future, these programs will entirely disappear.

The program funding plan for all program activities was originally based upon a higher landfill fee (\$1.50 per ton instead of the \$1 fee established in 1995), no transfers of funds for agency indirect overhead costs (now set at 25 percent of most expenditures), and more waste disposal. Things have changed a great deal and it appears that community waste reduction efforts are here to stay.

Over the next year, KDHE will study options for the future including potential ways to enhance revenue and/or eliminate certain statutorily directed program activities.

Kansas Landfill Tonnage Fee Revenue (by fiscal year)

2007	\$5,347,242
2008	\$5,118,158
2009	\$4,479,182
2010	\$4,425,922
2011	\$4,375,101
2012	\$4,684,548
2013	\$4,309,908
2014	\$4,100,000 (projected)



Kansas Department of Health and Environment - Bureau of Waste Management

www.kdheks.gov/waste
www.kansasdontspoilit.com

www.getcaughtrecycling.org
www.kansasgreenteams.org



**Kansas Department of Health & Environment
Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366**

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Calendar Items

- | | |
|----------------|---|
| July 2 | Small Arid Landfill Workshop
Garden City, KS |
| November 18-19 | SWANA/KDHE Solid Waste Management
Conference and Operator Training Course -
Manhattan, KS |



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Direct inquires and opinions to:
KDHE - BWM
Solid Waste Update
1000 SW Jackson, Suite 320
Topeka, KS 66612-1366

For subscription information:
Call: (785) 296-1600
Fax: (785) 296-8909
E-mail: bwmweb@kdheks.gov