ISSUE BRIEF

KENTUCKY SOLID WASTE

2011 Kentucky Grade: B Date: February 1, 2011

CURRENT CONDITIONS

Solid waste issues became a major focus in Kentucky in the late 1960s when the first solid waste legislation was passed. Early legislation furthered development of county authority and responsibility for penalties for non-compliance and development of five-year solid waste plans. The five-year solid waste plans provide all households access to garbage collection, cleanup of illegal dumps and litter, recycling and solid waste education. There are currently 29 permitted solid waste facilities, including contained landfills and construction demolition debris landfills, in 28 Kentucky counties.

Solid Waste Management

The Division of Waste Management (DWM) is one of six divisions of the Department for Environmental Protection in the Energy and Environment Cabinet (EEC). The Solid Waste Branch of DWM manages the solid (non-hazardous) waste program. First and foremost, the mission of the Solid Waste Branch is to minimize waste generation. Secondly, emphasis is placed on the reclamation and recycling of waste generated. Finally, requirements are developed to ensure that the remaining waste is disposed of properly. The Branch ensures proper solid and special waste management practices through the implementation of comprehensive permitting, monitoring and training. It is also responsible for the review and issuance of permits for solid waste landfills, land farming and composting facilities, and registration for permit-by-rule facilities.

Kentucky counties offer a system of universal waste collection. Universal waste collection means that collection service is available to households, either through curbside collection or through drop-off centers, collection centers or transfer stations. As Kentucky's population increases, so does the amount of waste generated in the state. In 2009, Kentucky experienced a 7 percent decrease in waste disposal in landfills—a 5 percent decrease of waste generated in Kentucky and a 2 percent decrease in out-of-state waste. Kentucky exported 7 percent of its waste to out-of-state landfills, an increase of 5 percent from 2008. Kentucky's recycling rate on common household items, such as aluminum, cardboard, ferrous and nonferrous metal, plastic, newspaper, glass and paper, decreased from 34.7 percent in 2008 to 29.7 percent in 2009. In 2006, the average recycling rate in the southeast region was 22 percent, while the national average was 28.5 percent. The recycling rate in Kentucky continues to be above the national average.

The average cost for waste disposal at Kentucky's landfills in the 2008-2009 fiscal year was $32.44 per ton.

Table 1 – Comparison of Landfilled and Recycled Solid Waste in Kentucky

Kentucky Solid Waste			
	Amount of Waste in Tons		
	2003	2008	2010
Landfilled Out-of-State Waste	605,760	870,637	851,541
Landfilled KY Waste	4,036,800	4,273,781	4,048,176
Total Landfilled in KY	4,642,560	5,144,418	4,899,717
Recycled in KY	919,802	2,398,863	1,838,574

Participation in curbside garbage collection has remained relatively flat since 2003, with an average of 87.6 percent participation. Since 2003, waste haulers and recyclers have been required to annually register and report the number of households utilizing collection service to the county. The average participation rate for collection systems in the 2009-2010 fiscal year was 86.2 percent, which means approximately 13.8 percent, or 245,141 households, are not accounted for by current tracking methods. Self-haul to a transfer station or convenience center is a legal method of disposal that most counties have difficulty tracking. Increased reporting requirements from transfer stations and convenience centers are needed to ensure adequate tracking for households participating in proper disposal of municipal solid waste. Multi-unit housing is also difficult to track and is often overlooked.

Permitting

The Solid Waste Branch continues to operate essentially backlog- free. On average, the Branch issues three or four permits per week and has an average of 60 permit applications under review at any given time. These numbers are almost evenly split between landfill permits and registered permits-by-by-rule activities.

Many permits in the Solid Waste program, such as registered permits-by-rule, are issued for the life of the facility. There is firm regulatory mechanism to close out permits that are no longer in use. The Solid Waste Branch, in conjunction with the Field Operations Branch, has begun evaluating old permits with the intent of closing out those which are no longer in use. The goal is to ensure that TEMPO, the departmental database of facility and permitting information, is as accurate as possible.

Historic Landfills

The Historic Landfill Program was established as a section within the Solid Waste Branch in 2003. Its purpose is to address the closure and remediation of historic landfills, commonly

known as "old town dumps." In 2003, there were an estimated 628 historic landfills. In addition to remedial work, the Branch has also become more active in closing sites with money from the Solid Waste Restoration Fund.

The following is a summary of the Historic Landfill Program progress and results for the 2009-2010 fiscal year.

- Ten landfill construction projects for closure/remediation have been completed.
- Two landfill closure projects are currently under construction.
- Three landfill closure projects have completed the design phase and are scheduled for construction in the next budget cycle.
- Four landfill closure projects are in the design phase.
- Six landfills are contracted for full-site characterization, or review.
- Three landfill owners have completed closure with assistance from the Solid Waste Branch Closure Section.
- Five landfill owners are currently working with the Solid Waste Branch Closure Section to perform remediation and closure of their landfills.
- Site characterization work at two sites has determined no further action is warranted.

Initial characterization (or review) of 159 historical landfill sites has been completed. There are plans to fund the initial site characterization of an additional 85 sites in 16 counties in fiscal year 2010 – 2011. The total estimated cost for initial site characterization, excluding direct and indirect personnel expenses, is $750,000.

In the wake of the 2008 Kingston, Tenn., coal ash impoundment failure, the Environmental Protection Agency (EPA) proposed new regulations concerning coal combustion waste. One option is to regulate coal ash under the hazardous waste provisions of the Resource Conservation and Recovery Act (RCRA), Subtitle C. Another option is to have states impose new regulatory requirements under RCRA Subtitle D, the solid (non-hazardous) waste provisions. While the rule is proposed at this time, either option will likely increase the design requirements for landfills disposing of coal combustion waste. This nationwide effort has already led to new developments such as the introduction of a geosynthetic clay liner specifically designed for leachate from coal ash.

Recycling

The Recycling and Local Assistance Branch (RLA) provides continuous technical assistance and training to public and private entities on solid waste issues and regulatory requirements, and promotes individual responsibility and accountability for proper solid waste management.

County recycling data illustrates a steady increase through 2009 in the statewide recycling rates of common household items, such as glass, aluminum cans, newspapers, mixed and white office paper, cardboard, metal and plastics. In 2003, the recycling rate was 17.9 percent and has since increased to 29.7 percent. Beginning in March 2004, recyclers were required to report the

amount of municipal solid waste collected by volume, weight or number of items recycled to the county on an annual basis.

The Glass Pulverize Loan Program has taken a new direction since the demise of the loaner machine that produced 110 tons of pulverized glass aggregate across the state in a four-year span. Now several counties have taken advantage of the recycling grant program and have purchased higher capacity pulverizers, capable of pulverizing up to 3,000 pounds of glass per hour.

Waste Tire Trust Fund

The Waste Tire Trust Fund was created in 1998 to address waste tires. Funding comes from a $1 fee on the sale of all new motor vehicle tires sold in Kentucky. The fund is used to conduct waste tire amnesty programs, award crumb rubber grants and facilitate market development for the use of waste tires.

During fiscal year 2008-2009, tire amnesties were conducted in 33 counties in the Bluegrass, Pennyrile, Barron River and Lincoln Trail development districts. A total of 1,196,816 passenger-tire-equivalents were recovered and recycled through these amnesties at a cost of nearly $1.2 million. This represents less than a 1 percent decrease in passenger tire equivalents recovered from these same ADDs compared with the last amnesties conducted in 2004 and 2005.

DWM proposed reauthorization of the Waste Tire Trust Fund during the 2010 legislative session. The new-tire fee was not extended during the regular session. Later, the fee was extended as part of the budget bill. The fee will continue to be collected until June 30, 2012.

Crumb Rubber Grants

During fiscal year 2008-2009, the Kentucky Transportation Cabinet awarded 11 grants totaling $199,457 for crumb rubber projects to be completed during the year.

Kentucky Pride Fund

The environmental remediation fee of $1.75 per ton of waste disposed of in Kentucky is placed into the Kentucky Pride Fund. This money is used for closure of historic landfills, remediation of illegal open dumps, recycling grants and household hazardous waste management grants.

Litter Abatement

In 2001, DWM began tracking the cost of litter activities and the number of bags of litter collected. The Kentucky Pride Fund was established in fiscal year 2002 as a state litter abatement grant program. The Kentucky Transportation Cabinet distributes $5 million annually to counties and incorporated cities for litter abatement activities. In 2009, counties cleaned 819,352 bags of litter on 425,898 miles of roadways. Litter collection costs totaled nearly $7 .2 million, an average cost of 44 cents per pound. Most items found on roadways are plastic bottles and food containers. Litter is costly at $878 per ton, compared to the average landfill disposal rate of $32.44 per ton.

Cleanup of Illegal Open Dumps

Since 1993, more than 24,711 illegal open dump sites have been cleaned at a cost of $65.2 million. In 2009, counties cleaned 281 illegal open dumps at a cost of $0.4 million. The average cost to cleanup each dump site was $8,654. There were 338 known dump sites remaining as of June 30, 2010.

Financial assistance through the Kentucky Pride Fund Illegal Open Dump Grant Program has provided counties with the incentive and necessary financial help to identify and rid communities of their old dump sites. Since 2002, the program has funded the cleanup of 1,292 dump sites at a cost more than $7 million. The fifth round of illegal open dump grants were awarded in January 2009 for the remediation of 253 dump sites at a cost of $2.9 million.

Recycling and Household Hazardous Waste

In 2006, the Kentucky Pride Fund was amended to provide grants for the development and expansion of recycling programs in household hazardous waste management, which would otherwise have been disposed of at municipal solid waste landfills. In 2009, 38 recycling grants were awarded for a total of $2 million. Thirty-eight recycling grants were awarded to cities, counties and universities in 2009; three of the recycling grants awarded were for regional efforts that included two or more counties. The new recycling grant and education efforts by local governments should result in continuing increases in the recycling rates. In 2009, household hazardous waste grants were awarded to nine counties, with one serving three counties.

Electronic waste, or E-scrap, collection is growing in the state with approximately 48 counties offering some type of e-scrap collection. Year-round e-scrap drop-off programs are increasing with 19 counties now offering them. Another 21 counties offer some type of e-scrap collection, whether periodic or annual event. More than 2,341 tons of e-scrap was collected in 2009. The Finance and Administration Cabinet awarded an e-scrap recycling contract to a national vendor, allowing the government, school districts, universities and any other public (not-for-profit) entities convenient access to recycling. The contract provides for statewide pickup and recycling services, with effectively 0 percent of the scrap going to landfills. Since the contract took effect, more than 1,500 tons of e-scrap have been collected from 482 agencies/locations and refurbish recycled in an environmentally sound and data-secure manner.

The End of Life Vehicle Solution – 2009 (ELVS) targets mercury-containing switches removed from automobiles before the autos are salvaged for scrap metal. The 105 participants collected 17.75 pounds of mercury from 8,066 switches.

Field Operation

DWM's Field Operation Branch performs inspections at sites managing solid waste, hazardous waste, underground storage tanks and PCBs. The primary duty of a regional inspector is to check the compliance of waste facilities. During 2009, the branch conducted 7,188 inspections. The underground storage tank program made up 49 percent, or 3,547, of the branch's total inspections, with 1,510 notices of violations issued. There were 2,504 inspections conducted

under the solid waste program. Violations were found during 447 inspections, which resulted in 251 notices of violation issued.

Underground Storage Tanks

The mission of DWM's Underground Storage Tank Branch is to provide for the prevention, abatement and control of contaminants from regulated underground storage tanks that may threaten human health, safety or environment.

Kentucky's compliance rate for underground storage tanks has risen from 42 percent to 46 percent, which is still below the 68 percent average compliance rate for other states in EPA Region 4. Underground storage tank compliance should increase when the regulations incorporating the Energy Policy Act of 2005 are passed.

Program Administration

DWM, along with the rest of the state government, is facing significant budget difficulties and there is strong potential for additional budget cuts. Previous cuts have prevented DWM from filling vacant positions, thus decreasing the staff that delivers services, implements programs and protects the environment. These cuts have also limited the funding utilized by the programs.

RECOMMENDATIONS SUPPORTED BY ASCE

The following recommendations are supported by ASCE.

- Continue training and technical assistance to public and private entities on solid waste issues and regulatory requirements through the Recycling and Local Assistance Branch
- Continue the Kentucky Pride Fund to provide financial assistance to waste programs
- Continue to enact new-tire fee to support Waste Tire Trust Fund for proper disposal of tires.
- Anticipate landfill design requirement changes for coal combustion waste due to proposed EPA regulations and plan to bring landfills into compliance

GRADE

The 2003 Kentucky Infrastructure Report Card assigned solid waste a C- grade. A major concern in 2003 was historic landfill sites that were going to be costly to correct and close. Since 2003, the Historic Landfill Program has completed 10 landfill closure projects and other projects are in the construction or design phases.

Recycling of household items has increased from 17.9 percent in 2003 to 29.7 percent. Several counties have used the recycling grant program to purchase higher capacity pulverizers to aid in recycling.

Although Kentucky has made progress in controlling solid waste, there are still some concerns. It is anticipated that landfills used to dispose of coal combustion waste will have to meet more stringent design requirements due to new proposed EPA regulations. Although compliance rates for underground storage tanks have increased from 42 percent to 46 percent, rates are still well below the average of 68 percent for other states in EPA Region 4. DWM is also facing budget difficulties.

As a result, Kentucky's solid waste infrastructure is assigned a grade of B.

KENTUCKY SOLID WASTE SUB-COMMITTEE

W. Patrick Stallard, Committee Chair, Stites & Harbison, PLLC

Anthony R. Hatton, Director, Kentucky Division of Waste Management

Tim Hubbard, Assistant Director, Kentucky Division of Waste Management

Chris R. Fitzpatrick, Manager, Recycling and Local Assistance Branch, Kentucky Division of Waste Management

SOURCES

1. Division of Waste Management. (2006). *Kentucky Division of Waste Management Annual Report 2005-2006*. Frankfort, KY. Commonwealth of Kentucky. http://waste.ky.gov/Pages/AnnualReports.aspx

2. Division of Waste Management. (2009). *Kentucky Division of Waste Management Annual Report Fiscal Year 2009.* Frankfort, KY. Commonwealth of Kentucky. http://waste.ky.gov/Pages/AnnualReports.aspx

3. Division of Waste Management. (2010). *Kentucky Division of Waste Management Annual Report Fiscal Year 2010.* Frankfort, KY. Commonwealth of Kentucky. http://waste.ky.gov/Pages/AnnualReports.aspx

4. Division of Waste Management. (January 29, 2010) *Kentucky's Waste Tire Program.* Frankfort, Kentucky. Kentucky Energy and Environment Cabinet, Department for Environmental Protection. http://waste.ky.gov/RLA/Waste%20Tires/Documents/WasteTireRevisedReport129102.pdf

5. Kentucky Division of Waste Management. (2004). *Statewide Solid Waste Management Report 2004 Update.* Frankfort, KY. Kentucky Energy and Environment Cabinet.

6. Kentucky Division of Waste Management. (2008). *Statewide Solid Waste Management Report 2008 Update.* Frankfort, KY. Kentucky Energy and Environment Cabinet. http://waste.ky.gov/RLA/Pages/SWMreports.aspx

7. Kentucky Division of Waste Management. (2009). *Statewide Solid Waste Management Report 2009 Update.* Frankfort, KY. Kentucky Energy and Environment Cabinet. http://waste.ky.gov/RLA/Pages/SWMreports.aspx