

**Summary Minutes
Solid Waste Management Advisory Council (SWAC)
November 20, 2008
Lazarus Government Center
50 W. Town Street
Columbus, OH 43215**

The Following Members Announced Their Attendance at Roll Call:

Eilert Ofstead, Statewide Environmental Advocacy Group
Steve Hill, Industrial Generators
Derek Anderson, ODNR
Mark Thomas, Counties
Yolanda Walker, Single County SWMDs
Chris Jacobs, Joint County SWMDs
Joseph Denen, Municipalities
Kathy Trent, Private Solid Waste Management Industry
Dan Harris, Ohio EPA
Jack Jensen, Municipalities

Larry Johns, Townships, and Brad Biggs, ODOD, arrived after roll call.

Review of the February 21, May 15, and August 21, 2008 meeting minutes

Some minor revisions were indicated and Jack Jensen MOVED to accept the minutes for all three meetings. Steve Hill SECONDED the motion and the minutes were approved on voice vote.

Update on Legislative/DSIWM Issues- Dan Harris, DSIWM

Mr. Harris related that the Ohio Chapter of NSWMA recently offered training for Ohio EPA and health department inspectors relating to landfill gas extraction. The training offered much information about installation and design of gas collection systems. There is potential to capture over 90 percent of gas if all aspects of the design are finely tuned.

Ohio EPA and other SWAC members also participated in the "Partners in Emerging Technologies Conference" sponsored by ODNR. The conference focused on waste-to-energy technologies, including presentations on anaerobic digestion, waste-to-ethanol, and biomass to jet fuel projects that are planned in Ohio. Other presentations included a new plastics recycling technology, new approaches for small-scale material recovery facilities (recycling facilities), and utilization of algae as a bio-fuel. It was related that the conference provided a good overview of technologies, most of which have been proven, but the need is for financial investment so larger pilot studies can be performed.

Derek Anderson related how appreciative ODNR was with the partnership with Central State, who hosted the conference. He also recognized several people present that attended the conference. It was indicated that SWAC should keep an eye on the various projects related to waste-to-energy (WTE). The regulations related to a WTE facility include surface water and air permits, and the pertinent solid waste regulations relate to the general housekeeping required for transfer facilities. It was mentioned that if 60 percent or more of the material received is recycled, then transfer facility permits and licenses are not needed.

Mr. Ofstead referenced the solid waste hierarchy mentioned in the August 21st minutes and related that resource recovery could be incorporated into it. He also indicated that raising the 25 percent recycling goal would indirectly support WTE. The long term view should be used when looking at technologies.

Mr. Harris indicated that Ohio EPA is already analyzing these types of facilities (WTE) and is trying to minimize any duplication of regulations. Mr. Jacobs reiterated that SWAC should take the long term view but also to make sure it is comprehensive. Efforts should be made to keep abreast of technologies and SWAC should be careful not to support one particular type of technology. Ms. Trent added that the status quo of “being green” is the driver for alternative waste technologies.

Mr. Harris indicated there was no pertinent legislation pending in the lame duck session of the State Legislature. Mr. Biggs mentioned that SWAC should make an effort to reach out and educate new members of the Legislature. It was mentioned that someone from the Ohio EPA Director’s office would be appropriate to liaise with new legislators, if necessary.

SWAC recognized and welcomed Joseph Denen, from the city of Washington Court House. Mr. Denen replaced Karl Graham as a municipal representative for SWAC.

Overview of the Adams-Clermont Joint County Solid Waste Management District- Paul Braasch, Director

Mr. Braasch started by showing a map of the only non-contiguous multi-county solid waste management district (SWMD) in Ohio. Both Clermont and Adams counties are bordered on the south by the Ohio River and Brown County sits right between them. It is often asked, why isn’t Brown County part of the District? It was admitted that it was his fault. He used to be the director for Adams-Brown Recycling, a non-profit organization, which operates in all three counties. Initially, H.B. 592 required each SWMD to have a minimum combined population of 120,000, otherwise an exemption was required. Clermont County has a population of 150,000, whereas Adams and Brown at the time were 23,000 and 34,000, respectively. Adams-Brown Recycling is located in Brown County. Because a Rumpke landfill also existed there, the fee structure greatly favored Brown County. The idea was to get an exemption and establish local control without dilution of votes from surrounding counties. Brown

County got the exemption and Mr. Braasch eventually moved on to SCS Engineers. In the meantime, Adams and Clermont Counties agreed to become a joint SWMD and SCS Engineers was working with them on their solid waste management plan at the time.

The demographics are quite different for the two counties. Clermont County contains many suburbs of Cincinnati and is much more urban in nature (180,000 people). Adams County, on the edge of Appalachia, is very rural (27,000 people). The two counties have separate approaches to waste management, and the Adams-Clermont Joint Solid Waste District (District) has evolved into a cooperative marriage of sorts. The underlying strategy is to rely on private industry where possible.

The District meets Goal #1 of the State Plan, which is the Access Goal. It does this through different approaches depending on the demographics. Curbside is mostly used in the suburbs of western Clermont County and single stream drop-offs are used in eastern Clermont County. In Adams County, two-stream drop-offs with compactors are used to minimize the amount of pick-ups required since the area is more rural.

Notably within the District is the Zimmer Power Plant. A material from the pollution control processes at the plant, FGD, is used as a gypsum source by the LaFarge Drywall Plant across the river in Kentucky. This is an enormous amount of material recycled in comparison to all the other sectors. If it was not recycled, the high recycling rate for the District would be only a fraction of what it now is.

Because open dumping is a big problem in Adams County, the District provides funding to offset disposal costs for scrap tires and solid waste recovered from open-dump clean-ups. Recently in Adams County, a transfer facility was built to offer residents a proper disposal option. Residents pay by the pound, which encourages use of the drop-off recycling available there as well as a metals buy-back opportunity. Scrap tires and refrigerators are also accepted at the site.

Other programs include industrial audits, community involvement, a master composter program, a help line, and literature. A voucher program is utilized for household hazardous waste. The education programs are implemented by the Soil and Water Conservation District as well the city of Milford in Clermont County, whereas Adams-Brown Recycling is contracted for this activity in Adams County. The District also funds litter clean-up crews that utilize inmates and has made efforts to encourage MSW composting in Ohio. Ohio EPA allows composted MSW to be used only as landfill cover.

Mr. Braasch provided additional slides relating the disaster debris management lessons learned in 1997, when southwest Ohio experienced massive flooding after 14 inches of rain fell in less than two hours. The District was called upon for help with the emergency operations. They were able to set up drop off locations for the debris left behind, as well as for appliances and tires. A landfill was permitted on short notice

specifically for the disaster debris. With help from the National Guard, the landfill was constructed, and the debris now lives peacefully in the ground off of 743 in Clermont County. It was a successful exercise in flexibility and adaptive management.

Alternative Waste Technologies - Ron Mills, Executive Director, SWACO

Mr. Mills started with a description of landfill gas the “Green Energy Center” (GEC), which converts landfill gas into compressed natural gas (CNG) for use in CHG powered cars and medium duty trucks. The GEC is a public-private partnership with the Solid Waste Authority of Central Ohio (SWACO) and FirmGreen Fuels with financial support coming from the Department of Energy. The GEC’s economically viable business plan reduces environmental impacts by finding a higher best use for landfill gas.

The proprietary technology is a CO₂ Wash™ System, which creates an alternative fuel for SWACO’s fleet. The result is a long term fixed cost fuel at a competitive production cost (~\$2.50/gge) as well a share in sales to others. Initially, the GEC will produce 250,000 gge/yr (gas gallon equivalents/year) of CNG with a second phase planned that could allow production of 3,000,000 gge/yr. It is estimated that the 100 largest landfills produce 300,000,000 gge/yr. With at least 500 landfills in U.S., the potential for energy recovery is quite large, and the Landfill Methane Outreach Program is helping to achieve a higher overall recovery rate.

There are many opportunities for CNG use. In the public sector, CNG can be used for mass transit, school districts, port authorities (airports), and county or city fleets. In the private sector, uses could include delivery fleets, material handling, warehousing, colleges, and taxi cab companies. It was clarified that the CNG vehicles SWACO will be using are being obtained from Honda and that the return-on-investment for a refuse vehicle was five years. Vehicles can be modified to use CNG. Also, a mix containing CNG and gasoline has been used for a while.

There are also barriers to the wide-spread use of CNG. There is inadequate CNG infrastructure & technology currently available. Fueling facilities and OEM vehicles both have very limited availability. There are a number of regulatory constraints including USEPA certification of CNG engines and conversions as well as permitting of the CNG production facilities. More capital investment is needed. Suggestions for overcoming these barriers would include research and development grants as well as grants for local governments to help with conversion of fleet vehicles and for fueling facilities. In the future, SWACO plans to build a regional fuel consortium for CNG use. They will also work to reform legislation that provides for CNG use and to pursue federal funding for SWACO facilities.

Mr. Mills then changed topics to The Ohio Consortium, a competitive bid for a service contract to collect, transport, and dispose municipal solid waste and process collected recyclables and yard waste. The consortium consisted of five suburban cities and three townships in central Ohio.

The idea was to provide added-value services to its member communities by using the economy of scale. The service contract bid process improves service quality, efficiencies, and cost effectiveness. Many communities were able to upgrade their trash services to include recycling and yard waste. Overall, costs and the number of resident complaints dropped significantly.

Mr. Mills also touched on SWACO's partnership with Kurtz Brothers, who are in the permitting stages for an anaerobic digestion project in the Columbus area. The product uses German technology to digest tons of sludge, fats, oils, and grease that normally would have been waste products. The bio gas created by the digester will be converted into electricity. They are anticipating construction to begin in the spring and operations to begin by the end of the year. It was mentioned there has been a delay in the permitting process, and it was explained that Surface Water, not DSIWM, will now be taking the lead on the permitting.

State Plan Update, Ohio EPA-DSIWM

Mr. Andrew Booker started by providing SWAC members with a status report of the State Plan update process. SWAC has already completed the review and approval of two chapters of the State Plan: Siting Criteria and Scrap Tire Management. Another two chapters, Restrictions and HHW Management, have already been discussed and distributed for review, and it is expected to have them approved in early 2009. The Ash Management chapter was discussed at the previous SWAC meeting in August, and the revised chapter will be distributed to SWAC members for review by the end of the year. It is expected to have those chapters approved in early 2009 as well. The chapter titled Implementing the 2001 State Plan Summary was discussed at the 2008 February and May SWAC meetings. This chapter's revision should be completed at the beginning of 2009 and approval thereafter. The final two chapters, Goals and Market Development, should be discussed at the February 19, 2009 SWAC meeting and a timeline for their completion will be established then. An additional SWAC meeting may be required to complete the task of revising the State Plan. SWAC members were asked to "pencil in" March 19 and April 16 of 2009 as potential meeting dates.

There was discussion concerning the incorporation of WTE into the ash management chapter. It was indicated that the State Plan chapters and their contents are called out specifically in statute. However, the revision does include new language addressing WTE in several other sections.

Mr. Stall then asked SWAC members to endure a presentation covering the basic requirements for SWMDs to demonstrate compliance with Goal 1 of the State Solid Waste Management Plan (State Plan). It is important that SWAC members understand the nuts and bolts of the goal to help facilitate future discussions concerning the State Plan update. The State Plan will give general direction for development of the Format when it relates to additional methods of assessing population credits but details will be provided in the Format and in rule.

Goal 1, Access to Alternative Waste Management Opportunities, is usually referred to as the “access goal”. Specifically:

The SWMD shall provide access to recycling and waste minimization opportunities for municipal solid waste to its residents and businesses

The general meaning is that SWMDs should ensure that residents are to be provided with recycling opportunities. The intended result would be district-wide distribution of recycling opportunities offered both publically and privately. SWMDs utilize the access goal as an alternative to achieving the recycling rates required for Goal 2 of the State Plan.

The access goal was developed during the revision of the 1995 State Plan. There were concerns about the ability of some SWMDs to meet the 25 percent residential/commercial (R/C) recycling goal and the required resources to get the data needed to make the demonstration. This was particularly true for the more rural SWMDs. The access goal was developed and gave SWMDs the option of selecting Goal 1 or Goal 2. It was Ohio EPA’s and SWAC’s response to the SWMDs that needed to devote their resources to providing services as opposed to gathering data. It is not possible to achieve Goal 2 without an adequate infrastructure and for those SWMDs that have limited infrastructure, Goal 1 gives them the ability to get that infrastructure in place. In essence, the infrastructure is the prerequisite for recycling. The overall intent is that the access goal helps to move a SWMD toward achieving the recycling rate.

For a SWMD to meet the access goal, 90 percent of the residential population has to have access to recycling. The demonstration must be made for each county in a SWMD and the demonstration must be made within three years of plan approval. Each recycling opportunity used to make the demonstration must accept at least five recyclable materials per opportunity. There are also provisions required for the commercial/institutional generators, to evaluate the waste reduction and recycling rate, and to incorporate a participation standard.

The access goal is broadly defined in State Plan. The specific instructions are provided in the Format and the requirements are contained in rule. A SWMD provides demonstration of meeting the access goal in their solid waste management plan. The specific steps to demonstrate residential access are:

- Step 1: Inventory of existing programs
- Step 2: Delineate service area(s)
- Step 3: Material selection
- Step 4: Assign population credits
- Step 5: Calculate access in reference year

- Step 6: Identify needed recycling opportunities
- Step 7: Evaluate outreach/incentive programs
- Step 8: Calculate waste reduction and recycling rates
- Step 9: Set target waste reduction and recycling rates

There are three basic types of recycling opportunities that are credible towards the access goal. Drop-off recycling locations are credible as well as curbside recycling services (both non-subscription and subscription). Also credible are “dirty” material recovery facilities (MRFs) that separate recyclables from mixed municipal solid waste. Non-subscription curbside is the most convenient recycling option because it is automatically available to the entire service area whereas a subscription curbside opportunity requires homeowner to request the service. Often residents do not pay a discreet bill for their trash services, but a subscription program requires homeowners to pay an identifiable fee, often through a separate bill.

The credible drop-off recycling opportunities are categorized by both the frequency/amount of time available and by the population of the community they serve and all drop-offs must collect a minimum of five materials. Full service (FS) drop-offs must be available at least forty hours a week whereas part-time (PT) drop-offs are required to be open at a regularly scheduled time at least once a month. The population categories are urban and rural. Urban political jurisdictions have at least 5,000 population. So the four categories of drop-off recycling opportunities are FS, urban; FS, rural; PT, urban; and PT, rural.

For the demonstration, a SWMD is required to define a service area that is no larger than a county. Therefore, a single county SWMD can have one service area and multi-county SWMDs will have multiple service areas. The default service area is a county.

The SWMD also needs to designate materials. The following materials are acceptable materials to designate: corrugated cardboard, mixed paper, newspaper, glass containers, scrap tires, used motor oil, textiles, lead-acid batteries, major appliances, steel containers, aluminum containers, plastic containers, and household hazardous waste. The 1995 State Plan had a limited list of materials and a SWMD had to designate four materials and make sure that all opportunities being used to meet Goal 1 collected those same four materials. With the 2001 State Plan, Ohio EPA and SWAC expanded the list of materials, and SWMDs now must ensure that at least five of the materials are collected at each opportunity. The five materials can be different from one opportunity to another.

It was then explained how population credits were assigned to the different types of recycling opportunities. Generally, default credits are prescribed that are data-based and opportunity-specific. These default credits are assigned in such a way as to give higher credits to the most convenient opportunities. Non-subscription curbside

programs are able to credit 100 percent of the households served. Subscription curbside programs are only able to credit 25 percent of the households served, which is a generous credit compared to research. FS, urban drop-offs receive credit for 5,000 people, whereas a credit of 2,500 people is received for each of the other three drop off recycling categories. Ohio EPA conducted a drop-off study in 2004, and it showed that the default credits for PT drop-offs are generous. Data shows that a population credit of less than 1000 is more typical. For a dirty MRF, if at least 15 percent of the waste is recycled, then 100 percent of all the households served are credible. If the dirty MRF recovers less than 15 percent, then access is determined by the recovery percentage divided by 15 percent.

Higher credits are allowed if a SWMD can demonstrate participation rates above the default credits. For subscription curbside programs, higher credits can be assigned based on the number of subscribers, a participation study, or by the weight of material collected. For drop-off recycling programs, higher credits based can be based upon the weight of material collected or by a participation survey.

To calculate access for a SWMD's service area the following steps are required:

- Step 1: Add population credits for all qualifying opportunities
- Step 2: Divide by total county population
- Step 3: If less than 90%, then multiply county population by 90%
- Step 4: Subtract 1 from 3

Example: County population = 250,000
Reference year access population = 135,000
Reference year access = $135,000/250,000 \times 100 = 54\%$ access
Population with 90% access = $250,000 \times .90 = 225,000$
Needed population credits = $225,000 - 135,000 = 90,000$

To meet the required 90 percent access, the SWMD should then identify needed opportunities within the service area to make up the 90,000 deficit. Examples, in the preferred order, to increase the population with access to recycling are:

- Establish curbside in largest communities
- Convert less convenient to more convenient
- Add drop-offs to urban areas
- Add drop-offs to rural areas

There is also a participation standard for the access goal. A SWMD is expected to encourage use of recycling opportunities through education and outreach as well as financial incentives. The SWMD must calculate reference year rates and if the R/C recycling rate is less than 25 percent, then a target rate must be set. If the industrial rate is less than 66 percent, then a target rate must be set for that sector as well.

Mr. Stall completed the presentation with a map of a fictional county and the corresponding changes required for it to meet the access goal. A table also showed how the demonstration would be made for the county in a solid waste management plan.

There was some discussion concerning the effectiveness of the access goal. The experience the SWMD SWAC representatives shared was that the access goal has helped immensely and was the tool they needed to get an infrastructure in place. The results have shown increases in recycling rates. The conversation also touched on the difficulties associated with meeting the Goal 2 for the R/C sector. Commercial entities are not required to respond to surveys, and that sector has always been the hardest to develop adequate recycling programs for. Another problem mentioned concerned the misreporting of waste when it reaches a landfill or transfer facility. A lot of industrial waste is suspected to be reported as MSW, thus throwing the numbers off and making the 25 percent goal unattainable. It was reiterated that the access goal works well because it has offered a concrete, objective method for SWMDs to meet the goals of the State Plan, rather than dealing with the aforementioned problems with recycling numbers.

Agenda Items for the February 19, 2009 SWAC meeting

As indicated by Mr. Booker earlier, the February agenda will be very State Plan intensive. No other agenda items were recommended.

Respectfully submitted: _____

Erv Ball, Vice Chair

Minutes approved on: _____

Certified by: _____

Kathy Trent, Secretary