

**Solid Waste Advisory Committee
Meeting Minutes of January 21, 2016**

The following members were present:

Michele Nestor, Chair
Joyce Hatala
Gregg Pearson
Mark Pedersen
Ed Vogel
Robert Watts, Vice Chair
Shannon Reiter
John Vataavuk
Eli Brill
Tanya McCoy Caretti
James Close
Joseph Reinhart

The following members were absent:

Jerry Zona
John Over
John Frederick

The following guests and Department of Environmental Protection (DEP) staff members were present:

Mary Webber	PA Waste Industries Association
Bob Bylone	PA Recycling Markets Center (RMC)
Anne Germain	National Waste and Recycling Association
Mark Hammond	Land, Air, Water Legal Solutions, LLC
Robert Anderson	REcommunity Recycling
Mike Schober	CDM Smith
Joy Bergey	PFPA
Jim Warner	Lancaster County Solid Waste Authority
Dave Vollero	York County Solid Waste Authority
Lisa Schaefer	County Commissioners Association of PA
Rich Hipp	Kuusakoski US; Vintage Tech Recyclers
Keith Ashley	DEP Bureau of Waste Management (BWM)
Ali Tarquino Morris	DEP BWM
Larry Holley	DEP BWM
JoAnne Yurcaba	DEP BWM
Chris Noble	DEP BWM
Lisa Beatty	DEP BWM
Jeff Bednar	DEP BWM
Jessica Shirley	DEP Policy Office

Call to Order; Introduction of Members and Guests; Approval of Minutes of September 24, 2015; Old Business

The January 21, 2016, meeting of the Solid Waste Advisory Committee (SWAC) was called to order at 10:08 a.m. by Michele Nestor, Chair. Ms. Nestor asked for introductions of committee members and guests.

Ms. Nestor called for a motion to approve the September 24, 2015, meeting minutes. Mr. Pedersen made a motion to approve the September 24, 2015, meeting minutes, which was seconded by Ms. Hatala. The motion carried unanimously. There was no old business.

Environmental Protection Agency's (EPA) Clean Power Plan

Jessica Shirley from DEP's Policy Office provided an overview of EPA's Clean Power Plan and the potential impacts on Pennsylvania. EPA has established a final rulemaking covering carbon emissions at existing fossil fuel power plants. Under that rule, Pennsylvania is required to develop a "Clean Power Plan" for submission to EPA by September 2016 and must reduce carbon emissions from fossil fuel plants 33% by 2030.

Ms. Shirley reviewed a number of public considerations in the development of Pennsylvania's Clean Power Plan. DEP accepted comments for a 60-day period on how PA should approach a state compliance plan. DEP received over 3,000 comments. Ms. Shirley indicated that Pennsylvania's draft plan will be issued for public comment in Spring 2016. Public hearings will also be held. The final plan will be submitted to EPA by September 2016.

Mr. Vatauvuk stated that the coal industry in the Somerset County area has been devastated by stricter air quality emissions requirements, resulting in the loss of many full-time jobs in and around Somerset County.

Current Economic Impacts on the Recycling Industry

Robert Anderson, Mid-Atlantic Regional Business Development Manager of REcommunity, gave a presentation on the status of the recycling industry. He outlined the following four main challenges that could threaten the sustainability of the industry:

1. Stream composition changes;
2. Rising labor costs;
3. Increasing maintenance/processing costs; and
4. Depressed commodity prices.

The composition of the recyclable materials coming into recycling facilities is changing due to socio-economic factors. The challenges associated with a changing stream include the impact of "light weighting" on the recycling industry. Light weighting refers to items such as aluminum

cans that now contain less aluminum. Due to light weighting of materials, processing facilities have to process more recyclables to generate the same amount of revenue.

Mr. Anderson stated that the amount of paper and plastic bottles collected from the waste stream has also dropped significantly due in part to decreases in weight. He also noted that there has been a 60 percent decrease in weight of plastic bottles over the last 22 years. In some cases, materials such as newsprint are leaving the recycling stream completely. The percentage of flexible packaging is increasing in the recycling stream. Flexible packaging is “read” by automated machines at processing facilities as a two-dimensional item rather than a three-dimensional item, resulting in additional time to properly sort this material. Flexible packaging is regarded as a contaminant, which also lowers the per-ton value of the material.

Mr. Anderson also explained that contaminants in the recycling stream present obstacles for the industry, and increased education to keep contaminants out of the recyclable stream is needed. Some contaminants can damage processing facilities or harm workers. Examples of contaminants are compost, lawn waste, and biological materials (diapers, needles/sharps).

Another major challenge for the recycling industry is the rising cost of doing business. Residue (materials not able to be recycled) rates are increasing due to light weighting of some materials and less recyclable material (plastics, glass, paper) being added to the waste stream. Buyers of recyclable materials are demanding less contamination, which requires more sorting and higher labor costs. Disposal of residues increases operational costs. Extraction of contaminants is labor intensive, resulting in decreased efficiency and revenue.

A rise in minimum wage would also impact the industry. An increase of \$.50 to \$1 in the minimum wage could raise the per-ton processing cost by as much as \$3.

Low estimated oil prices through 2020 present challenges for Municipal Recycling Facilities (MRFs) and the recycling industry in general. Lower oil prices drive down the cost of virgin material, making it cheaper to buy new materials than to purchase recycled commodities.

Mr. Anderson explained that recycling facilities and the recycling industry must work in partnership and adapt to significant challenges facing the industry. Responding to these challenges collectively will help ensure the long-term sustainability of recycling programs.

Anne Germain of the National Waste & Recycling Association followed up on Mr. Anderson’s comments and mentioned the challenges to manage food/organic waste. Ms. Germain explained the difficulty in finding funding opportunities to build large multi-million dollar facilities to manage food/organic waste when the overarching environmental goal is to eliminate these materials from the waste stream completely.

The Potential Role of Waste-to-Energy (WTE) in Clean Power Plans

James Warner, CEO of Lancaster County Solid Waste Management Authority, presented information on how WTE facilities can play an important role in clean power plans. He described Lancaster County's integrated municipal waste management system and other facilities involved in managing waste and recyclables.

Mr. Warner explained that WTE facilities can complement and augment a municipality's recycling goals and, in Lancaster County, ferrous and non-ferrous metal recovery leads to a higher county recycling rate. WTE facilities can help improve community sustainability efforts by converting the community's waste into electricity.

There are six WTE facilities in Pennsylvania. These facilities generate electricity that powers residential homes and have also created 1,000 jobs in PA. In addition, WTE facilities may reduce greenhouse gas (GHG) emissions by diverting waste material from landfills and offsetting fossil fuel consumption. Mr. Warner cited that WTE facilities have documented environmental excellence with emission levels within and often below EPA's standards, and Pennsylvania WTE facilities have a 14-year average compliance record of 99.7%. EPA, the Intergovernmental Panel on Climate Change (IPCC), the European Union (EU), CalRecycle, and the California Air Resources Board also recognize the benefits of utilizing WTE facilities.

David Vollero, Executive Director of the York County Solid Waste and Refuse Authority (YCSWA), provided an overview of the York County WTE facility, which provides the following benefits:

1. Produces a stable and reliable base load energy;
2. Reduces GHG emissions;
3. Complements and augments recycling initiatives;
4. Contributes to community sustainability efforts;
5. Creates jobs;
6. Extends the life cycle of landfills; and
7. Conserves land.

Mr. Vollero explained that the electricity produced by the WTE facility yields 10 times the amount of energy per ton of waste as does electricity production from landfill gas. Additionally, a locally and publicly owned WTE facility eliminates the potential need for communities to rely on long-distance trucking for disposal.

WTE facilities are important to the communities that rely on them and to the Commonwealth-at-large. However, the continuing viability of existing WTE facilities is subject to market pressures, including oversupply of waste disposal capacity in the region and declining energy prices. Mr. Vollero also noted that the EU, from 1990-2007, achieved a 34% reduction in its GHG emissions by diverting waste from landfills to recycling and WTE facilities.

PA Municipal Solid Waste (MSW) Landfills and Climate Change

Ann Germain, Director of Waste Recycling Technologies, National Waste and Recycling Association, gave a presentation regarding federal requirements for MSW landfills including location restrictions, operating practices, closure and post-closure requirements. With respect to location restrictions, landfills are not permitted to be built in certain areas such as floodplains, seismic areas and airports. Regulations also require that landfills are constructed and operated in a manner that is protective of the environment, including a composite liner system (barrier) between waste and the subsurface; a drainage system above the composite liner to collect any liquids (leachate) draining from the waste; waste receipt control; vector control; storm and surface water control; and required recordkeeping.

Ms. Germain explained that, in addition to robust regulations, landfills are routinely inspected and monitored to verify that various measures are in place to properly operate the facility.

Landfill gas is generated from the decomposition of organic material such as paper, yard trimmings and food waste. The process of decomposition includes two primary phases, aerobic and anaerobic, and produces methane gas. Landfills are required to incorporate a gas collection system to capture methane being produced by the landfill. The captured methane is then destroyed using a flare, beneficially used to generate electricity, or used as a fuel for vehicles.

In addition to the above construction and operation requirements, new federal source performance standards (related to air quality) and emission guidelines establish requirements for the collection and management of landfill gas as well as monitoring and reporting requirements. However, Pennsylvania's regulations for managing landfill gas are more stringent than federal regulations.

EPA created the LandGem model to estimate production of landfill gas. Generally, the models overestimate the amount of gas a landfill will produce so the designed gas collection system has enough capacity for the amount of methane that the landfill produces.

In the US, there are 645 operational landfill gas facilities generating 2,066 MW of electricity. PA is tied with Michigan for second place in the country for operational projects; only California has more projects. Landfill gas is recognized as a renewable energy resource by the EPA as well as 31 states.

Pennsylvania Landfills and Climate Change

Mark Hammond of Land, Air, Water Legal Solutions, LLC, presented information on Pennsylvania landfills and their impact on climate change. Pennsylvania is among the top three states in the country for its beneficial use of landfill gas, which produces 185 MWs of base-load electricity. Currently in Pennsylvania, there are eight high British Thermal Unit (BTU) plants operating, as well as four medium BTU plants. Some landfill gas generated is of such high quality that it's considered pipeline-grade natural gas.

Pennsylvania recognized the benefits of collecting and utilizing landfill gas early on. DEP also established air emission requirements which pre-date EPA's requirements. In some cases, Pennsylvania's requirements are more stringent than EPA requirements. Mr. Hammond also mentioned that research and new data from landfills will impact how landfills are designed, constructed and operated in the future.

Mr. Hammond recommended that the benefits of utilizing landfill gas and WTE facilities should be noted in Pennsylvania's Clean Power Plan, and he highlighted the differences, advantages and disadvantages to WTE facilities versus landfills. WTE facilities have the capacity to produce a greater amount of energy but can emit more GHG, whereas landfill gas produces less energy but provides long-term breakdown (sequestration) of various materials in the landfill.

DEP's Recycling Program

Larry Holley of DEP's Division of Waste Minimization and Planning provided the committee with an update on DEP's recycling program. He discussed the Household Hazardous Waste (HHW) collections, the Covered Device Recycling Act (CDRA) and recycling residuals.

Pennsylvania's recycling economic impact study is going to be revised, and the revised study will take into account all the waste management activities and recycling that occurs in the private and public sectors. Mr. Holley asked Bob Bylone from the PA Recycling Markets Center (RMC) to provide input regarding the planned economic impact study. Mr. Bylone stated that the RMC is soliciting proposals to draft the study, and several recognized economists are presently evaluating the proposals. The goal is to report back to the SWAC and DEP within the next 10 months.

Ms. Nestor stated that the entire SWAC will be developing topics for future committee meetings. Going forward, 15 minutes will be allotted at each meeting to discuss potential agenda items.

Public Comment; New Business

Ms. Nestor recognized Richard Hipp, a representative of the electronics recycling industry. Mr. Hipp stated that Cathode Ray Tubes (CRTs) make up 70 to 80 percent of discarded electronic waste in Pennsylvania, and the lead contained in the CRTs is a health and environmental concern. Mr. Hipp pointed out that about 70 percent of the US-generated CRTs had been going to Mexico or India; however, these countries are no longer accepting CRTs, causing massive oversupply of CRTs in the US.

Mr. Hipp outlined the problems presented by the lack of outlets for CRTs and noted that the issue must be solved by both the private and public sectors. He also mentioned that many places in Pennsylvania do not have access to electronics recycling programs.

Meanwhile, the market bottom for CRTs has not yet been reached, and he expects the situation to get worse in terms of accepting, marketing and proper disposition of CRTs.

Shannon Reiter mentioned that discarded electronic devices continue to be a problem at illegal disposal sites. Ms. Reiter cited a movement to engage legislators to address the problems with discarding electronic devices, including the illegal dumping of these materials.

The meeting adjourned at 1:21 p.m., moved by Ms. Hatala, and seconded by Ms. McCoy.