

**Solid Waste Advisory Committee
Meeting Minutes of May 16, 2013**

The following members were present:

Tanya McCoy-Caretti, Chair
John Frederick
Ernest (Ernie) Larson
Michele Nestor
Gregg Pearson
Sean McGovern for Joseph (Joe) Reinhart
Edward (Ed) Vogel
Robert (Bob) Watts

The following members were absent:

James (Jim) Close
Eric Conrad
Joyce Hatala, Vice-Chair
Mark Pedersen
Albert (Al) Wurth
Gerald (Jerry) Zona

The following guests were present:

Eli Brill	Waste Management of PA, Inc.
Robert (Bob) Bylone	Recycling Markets Center (RMC)
James (Jim) Erb	American Petroleum Institute (API)
Timothy (Tim) Hartman	Solid Waste Association of North America (SWANA), Keystone Chapter
Laura Henry	Dept. of Environmental Protection (DEP) Bureau of Waste Management (BWM)
Lawrence (Larry) Holley	DEP BWM
Duane Lanoue	Civil & Environmental Consultants, Inc.
Andre Learner	PPL Electric Utilities (PPL)
Kelly Megonnel	Professional Recyclers of Pennsylvania (PROP)
Phil McNelly	Anthracite Region Independent Power Producers Association (ARIPPA)
Ellen Montis	Lycoming County Resource Management Services
Ali Tarquino Morris	DEP BWM
Jeffrey (Jeff) Olsen	DEP BWM
Lisa Schaefer	County Commissioners Association of Pennsylvania (CCAP)
Jessica Shirley	DEP Policy Office
Stephen (Steve) Socash	DEP BWM
Heidi Sturm	Exelon
Gregg Taylor	K&L Gates, LLP
Michael (Mike) Texter	DEP BWM
Sharon Trostle	DEP Office of Waste, Air, Radiation and Remediation (WARR)
C.D. Vu	DEP BWM
Kenneth (Ken) Reisinger	DEP BWM, Bureau Director
Mary Webber	Pennsylvania Waste Industries Association (PWIA)
James Wheeler	Pennsylvania State Association of Township Supervisors (PSATS)

Dwayne Womer
Patricia Woods

DEP BWM
DEP BWM

Call to Order; Introduction of Members and Guests; Approval of Minutes; Election of Officers

The May 16, 2013, meeting of the Solid Waste Advisory Committee (SWAC) could not be called to order at the scheduled starting time of 10:00 a.m. due to lack of a quorum. The meeting started at 10:20 a.m. when the committee members and guests introduced themselves. Sean McGovern served as proxy for Joseph Reinhart.

With the general consensus of those in attendance, the meeting proceeded with presentations by DEP staff regarding the organization, staffing and responsibilities.

Overview of the DEP Bureau of Waste Management (BWM)

The BWM gave an overview of the Bureau’s operations and organizational structure. The Chief of each of the Bureau’s Divisions presented their respective portions. Ken Reisinger introduced himself as the Director of the Bureau of Waste Management, and provided an introduction to the Bureau’s basic structure. Over the past several years, the Bureau underwent a split into two separate Bureaus: the Bureau of Environmental Cleanups and Brownfields, which is headed by George Hartenstein, and the BWM. BWM has four distinct divisions: 1) The Division of Municipal and Residual Waste, headed by Steve Socash; 2) the Division of Hazardous Waste, headed by Dwayne Womer; 3) the Division of Waste Minimization & Planning, headed by Larry Holley; and 4) the Division of Reporting and Fee Collection, headed by Mike Texter.

Recently, a section for Program Development and Support was developed, which is headed by Ali Tarquino Morris. The Program Development and Support Section replaces the former Assistant Director’s Office. Therefore, the section will manage meetings of the Solid Waste and Recycling Fund Advisory Committees. In addition, the section assists the Bureau in the development of regulatory packages, management of special projects and coordination with the regional offices.

Overview of the Division of Municipal and Residual Waste

Steve Socash presented an overview of the Division of Municipal and Residual Waste. This Division reviews and approves General Permit applications for the beneficial use of waste or the processing prior to beneficial use of waste; assists in the development and interpretation of regulations; issues waste tire hauler registrations and provides support to haulers registered under that program; assists BWM and regional office staff in landfill management and waste tracking.

- General Permit Applications: The Division manages all applications to develop a new general permit or renew an existing general permit. Some registrations for coverage under a general permit are also issued by Central Office, but BWM is working to shift that responsibility to the regional office permitting staff. Currently, the Division manages approximately 125 general permits and 208 entities that are registered under the various permits.
- Regulatory Development & Interpretation: The Division assists in the development of regulations and revising existing regulations. It is presently working with the Program Development & Support Section on revising the Infectious and Chemotherapeutic Waste Regulations. The proposed revisions were approved by the Environmental Quality Board on April 16, 2013, and are expected to be published in the

Pennsylvania Bulletin this summer. The Division is also developing waste transporter registration requirements that will incorporate the requirements of the Waste Transportation Safety Act (Act 90) into regulation.

In addition, the Division assists in the development of Technical Guidance documents, Fact Sheets, Manuals, and regulatory interpretation. The Division recently updated the Mushroom Manual, which was published in the *Pennsylvania Bulletin* late last Fall.

- Waste Tire Registrations: Act 90 requires DEP to register individuals that transport waste tires. The issuance and renewal of these authorizations and communication with registered haulers is managed entirely by the Division's staff.
- Landfill Management and Waste Tracking: The Division assists BWM and regional office staff with a variety of landfill management and waste tracking issues. The Division is involved with the management of TENORM-containing wastes at disposal and processing facilities and the on-going effort to track tritium found in leachate from waste disposal facilities. DEP has been tracking the tritium levels in leachate for the last 5 years, which likely entered the waste stream from disposed emergency exit signs.

Other efforts lead by the Division of Municipal and Residual Waste include standardizing the process for individuals performing co-product determinations; coordination of permits with other Bureaus, such as Oil & Gas Management, Point and Non-point Discharge, and Air Quality; and the processing of reimbursement applications for the independent review of permit applications for new municipal landfills, resource recovery facilities or expansion of those facilities by host municipalities under Section 1110 of Act 101.

Overview of the Division of Waste Minimization and Planning

Larry Holley presented a summary of the Division of Waste Minimization and Planning and the four primary grant programs it administers. The Division's staff complement has been reduced, and therefore, it no longer performs education and outreach efforts to its previous extent. The Division's work can be broken down into the following categories:

- The Household Hazardous Waste (HHW) Program: Municipal waste disposal facilities are not authorized to accept hazardous wastes, as the term is defined by the Federal Hazardous Waste Regulations. The definition of hazardous wastes includes waste items such as paints, oils and batteries that are routinely generated in small quantities by most households and places of residence. The HHW Program provides disposal options for residential generators of hazardous waste items. The Division dedicates one full-time position to assisting communities in hosting HHW collection events and managing inquiries from individuals needing to dispose of HHW. BWM funds 60-80 HHW collection events annually. The collection events range from door-to-door collection to quarterly-scheduled programs to annual collection programs. BWM allocates approximately \$800,000-\$1,700,000 for the HHW Program in its annual spend plan. The HHW Program is funded primary from the Hazardous Waste Fund and the Recycling Fund.
- The Covered Device Recycling Act (CDRA): The CDRA is relatively new legislation that was enacted in 2010, which requires electronics manufacturers to provide recycling outlets for the electronics that they manufacture. This is a complex issue, and the Division continues to adjust to it daily, working toward statewide consistency in the implementation of the CDRA.

- Recycling Markets Center (RMC): The RMC assists the Commonwealth in developing markets for recyclables and assisting industry in finding ways to recycle wastes generated. BWM funds the RMC approximately \$700,000 per year.
- Act 101 Recycling Programs: Act 101 mandates that a municipality consisting of greater than 10,000 people or greater than 5,000 people with a population density of greater than 300 people per square mile develop and provide a recycling program for its residents. There are over 470 mandated municipalities that the Division ensures are implementing their recycling programs and provides assistance.

The Division actively manages the 901, 902, 903, and 904 grant programs. At this time, the grant processing section is fully staffed. The budget for each of the four grant programs is as follows:

- 901 County Planning Grants – BWM budgets \$2,000,000 annually for County Planning Grants.
- 902 Recycling Implementation Grants – BWM spends approximately \$15,000,000 per year for 902 grants, which are dispersed to over 100 applicants. In order to distribute the funds equitably, the Division implemented a change this year that requires grant recipients to wait a year before they can re-apply for a grant under this program.
- 903 County Coordinator Grants – BWM spends approximately \$1,600,000 annually on salaries and approved expenses for 58 active county coordinators.
- 904 Municipal Recycling Performance Grants – For the 2011/2012 fiscal year, BWM dispersed approximately \$16,500,000 to applicants under this program.

Overall, revenue is declining. In prior years, revenue averaged \$37,000,000 per year, and it has fallen to approximately \$35,000,000 annually.

Overview of the Division of Hazardous Waste

Dwayne Womer presented an overview of the Division of Hazardous Waste. Pennsylvania's Hazardous Waste Management Program is authorized by the U.S. Environmental Protection Agency (EPA). The EPA gives DEP the authority to implement programs, in lieu of the federal program. The regulations, upon which Pennsylvania's hazardous waste program is based, consist mainly of the federal hazardous waste regulations which are incorporated by reference into the Pennsylvania hazardous waste regulations along with some additional state-specific requirements. The key points of Pennsylvania's program are handled through DEP's regional offices and are outlined as follows:

- Permitting: There are approximately 40 active Hazardous Waste Management Facilities permitted in Pennsylvania and 10 closed facilities that require some ongoing monitoring activities.
- Inspection and Enforcement Activities: Pennsylvania has approximately 1,200 large quantity generator facilities. These are entities that generate 2,200 pounds waste or more of hazardous per calendar month. Pennsylvania also has 10,500 small quantity generators which generate between 220-2,200 pounds of hazardous waste per calendar month. In addition, there are conditionally exempt small generators which generate less than 220 pounds of hazardous waste per calendar month. The large

quantity generators and small quantity generators require regular inspections. The conditionally exempt small quantity generators are provided assistance and inspected as needed. Enforcement activities are only needed when violations occur at one of the facilities.

- Complaints: Regional office personnel also respond to complaints received that involve hazardous waste.

Central Office's responsibility is to ensure statewide consistency in DEP's implementation of the hazardous waste program and to provide regulatory interpretation and assistance to regulated entities, regional office staff and the general public. Commonly asked questions include whether or not a waste is a hazardous waste as the term is defined by the regulations. The hazardous waste regulations can be difficult to interpret because certain specific federal regulatory provisions may be excluded, modified or supplemented by Pennsylvania regulations, which is not be apparent through review of the federal regulations alone. For example, Pennsylvania's Solid Waste Management Act requires that transporters of hazardous waste obtain a license from DEP, but such licensing is not required by federal regulation.

DEP receives a federal RCRA Grant from EPA which funds 75% of the cost to implement the hazardous waste management program in Pennsylvania. The state has to fund the remaining 25% which costs approximately \$1.6 million annually, yielding a total of \$6.3 million per year to implement the program. A grant work plan is developed jointly by DEP and EPA, which outlines the work that will be done under the grant, including facility permitting; compliance monitoring and enforcement; data management; waste minimization activities, such as mercury thermostat collection and recycling; and assisting school labs to remove old or unused chemicals. Through the grant work plan, DEP also assists in implementing the federal Corrective Action Program. This program involves investigation and remediation activities at permitted facilities where violations were noted; facilities that operated without a permit; or facilities that released a hazardous waste into the environment.

Overview of the Division of Reporting and Fee Collection

Michael Texter presented the Overview of the Division of Reporting and Fee Collection (RFC). RFC process the following types of quarterly operations and fee reports:

- Hazardous Waste Transporters: On average, RFC processes approximately 200 reports per quarter, 50% of which are submitted electronically. The RFC collects an average of \$1.3 million annually in fees from the hazardous waste transporters licensed in Pennsylvania, which are deposited into the Hazardous Sites Cleanup Fund.
- Hazardous Waste Disposal Facilities: RFC receives 18 Hazardous Waste Treatment, Storage and Disposal reports per quarter, 72% of which are submitted electronically, generating \$600,000 per year in fees.
- Municipal Waste Disposal Facilities: RFC receives 51 quarterly reports from each of the municipal waste disposal facilities in Pennsylvania, 75% of which are submitted electronically, and it collects approximately \$98 million annually, \$36 million a year is placed into the Recycling Fund and \$62 million a year goes to the Environmental Stewardship/Growing Greener Fund.

In addition, RFC processes hazardous waste and residual waste biennial reports and hazardous waste manifests.

- Hazardous Waste Reports: RFC receives over 850 reports. Approximately 75% of these reports are submitted electronically. In 2011, the reports showed that Pennsylvania generated approximately 308,720 tons of hazardous waste per year. Of that tonnage, 262,668 tons per year were shipped to off-

site disposal facilities. The 40 treatment and disposal facilities located in Pennsylvania received just over 400,000 tons a year.

- Residual Waste Reports: RFC also receives approximately 2,000 residual waste reports which show that the Pennsylvania generates approximately 22.3 million tons of non-wastewater residual waste per year.
- Hazardous Waste Manifests: RFC processes 50,000 Hazardous Waste Manifests per year.

With these reports, RFC can track waste trends and verify data. For instance, in 2012, the total amount of waste managed at municipal waste landfills and waste-to-energy facilities was approximately 20.5 million tons, of which approximately 15 million tons were generated from within Pennsylvania and over 6 million tons coming from out of state. The statewide per capita disposal of municipal waste is 0.7 tons per person per year.

In addition, RFC works with Keep Pennsylvania Beautiful and assists with its activities. DEP awards the program approximately \$250,000 per year. RFC also waives the Act 90 requirements and tonnage fees for the Great Pennsylvania Cleanup each year. In addition to cleanups within Pennsylvania, DEP works with the organization on the international coastal cleanup.

The Division also manages the Waste Transportation Safety Program (WTSP), which has been in place since 2002. Under the program, waste haulers are required to have an authorization from DEP to dispose waste at a landfill. Currently, RFC processes over 7,000 applications each year and collects approximately \$3 million in revenue from this program. The WTSP works with the Pennsylvania State Police (PSP) to perform approximately 7,000 inspections under the Motor Carrier Safety Assistance Program (MCSAP). The 70% rate of compliance for PSP MCSAP inspections of waste vehicles is better than other commercial vehicles.

Overview of the Program Development and Support Section

Ali Tarquino Morris provided an overview of the Program Development and Support Section. The Section can be divided into two main groups: Program Support and Program Development.

The Program Support group is comprised of the following:

1. Clerical Support: There are five clerical positions, which provide clerical and administrative support to BWM and manage incoming phone calls for each of the four divisions in addition to the Director's office.
2. Grant Processing: Three Management Technicians and one Administrative Officer process BWM's grant applications; administer the grant agreements; and process invoices for payment primarily in support of the Recycling program.
3. Supervisor: Patricia Woods supervises the Program Support group; serves as the Human Resources Liaison for the Bureau; manages the Bureau's 7 special funds, including the Solid Waste Abatement Fund, Used Tire Pile Remediation Fund, Waste Transportation Safety Account, and Recycling Fund; and coordinates with the Division Chiefs and Regional Program Managers to develop BWM's annual budget and spending plans.

The Program Development group includes Laura Henry and Chris Solloway who also provide support and assistance to each of BWM's divisions. Program Development's work typically falls into one of the following categories:

1. Regulatory Development and Revision: The group works in concert with Central Office BWM staff, Regional Office Staff, the Policy Office, and the Bureau of Regulatory Counsel and is responsible for preparing all documents needed for the regulatory package; preparing presentations to the EQB; socializing the package through the appropriate advisory committees; ensuring outreach to stakeholders and the affected constituency; and preparing *Pennsylvania Bulletin* notices. The group also updates Technical Guidance documents, policies, procedures, fact sheets, and internal procedures, as necessary.
2. Special Projects: The group manages special projects, such as Permit Decision Guarantee, where it works in coordination with the Regional and Central Office staff to develop and maintain Standard Operating Procedures for the permit review process and eliminate BWM's permit queue.
3. Promote Program consistency: The group aims to promote statewide consistency in the implementation of the waste program. It frequently communicates with regional staff and BWM staff in Central Office. It meets regularly with the Regional Program Managers, Regional Permitting Personnel, Regional Legal Staff, and Regional Operations Personnel.
4. Waste Planning. The group is also involved with BWM's waste planning efforts, including the evaluation of disposal data submitted by the landfills to maintain estimates of current landfill capacity. In addition, the group is evaluating BWM's TENORM disposal data and refining disposal procedures based on that evaluation.

Other mainstays of the Program Development and Support Section include the administration of the Host Municipal Inspector Program, which allows municipalities that are hosting a waste processing or disposal facility to designate a local representative as its Host Municipal Inspector (HMI), who will inspect the facility on behalf of the host municipality. Act 101 allows host municipalities to be reimbursed by DEP for costs associated with employing a HMI. The host municipality may request a reimbursement of up to 50% of its eligible costs. The Program Development Support Section provides training to certify new inspectors, provides training necessary to maintain the certification of currently certified inspectors, and processes the grant reimbursement requests under the program. DEP currently has 59 certified HMIs in 61 participating host municipalities.

The Program Development and Support Section also serves as the liaison for the Solid Waste and Recycling Find Advisory Committees. It communicates with the committee members, develops meeting agendas and generates packages for meeting approvals. The Section's staff is also responsible for administering and interpreting the committee's by-laws and preparing recommendations for committee appointments and re-appointments.

Oil and Gas Development Radiation Study

Jeff Olsen provided an overview of DEP's Oil and Gas Development Radiation Study or TENORM Study. The generation of Technical Enhanced Naturally Occurring Radiation Material (TENORM) has increased significantly in recent years, due primarily to the expansion of natural gas exploration and production in Pennsylvania. There are many issues associated with TENORM that must be managed, including potential worker radiation exposure, potential public radiation exposure, environmental contamination and waste disposal. In order to effectively evaluate and manage these issues, DEP is funding a contractor-conducted study to collect, evaluate and report appropriate data on current radiation levels at our landfills. Perma-Fix Environmental Services, Inc., a health physics consulting group, will be conducting the study, in concert with BWM, Bureau of Radiation Protection

(BRP), the Bureau of Point and Non-Point Source Management (BPNPSM), the Bureau of Oil and Gas Management (BOGM) and the Bureau of Laboratories (BoL). The study aims to collect empirical data that documents the range of TENORM in various media which will allow DEP and the oil and gas industry to make informed decisions regarding long-term management options; address TENORM generation, transportation, effluents discharged, and disposal more effectively at the point of generation; and provide for the successful management of TENORM-related issues as the Marcellus industry expands throughout the Mid-Atlantic states. Sampling for the study began on April 15th, and it is expected to continue for 12-14 months. DEP anticipates the finalized study to be released in June or July 2014. DEP's TENORM study has been designed as a transparent effort, providing both the industry and the public access to the related information. The final peer reviews of the study are available on-line at http://www.portal.state.pa.us/portal/server.pt/community/oil_gas_related_topics/20349/radiation_protection/986697.

At 12:45 p.m. a quorum was reached, and the May 16, 2013, meeting of the Solid Waste Advisory Committee (SWAC) was officially called to order.

Tanya McCoy-Caretti entertained a motion to approve the September 13, 2013, minutes. Ernie Larson moved to approve the minutes, seconded by John Frederick, and the motion carried.

The election of officers was conducted. Tanya announced her decision to step away from her position as chair, since other members had expressed interest in serving as the committees' Chair. On the slate of nominees for Chair of the committees were Michele Nestor and Bob Watts. Tanya opened the floor for additional nominees; no additional nominations were made, and the nominations for Chair were closed. The slate of nominees for Vice-chair of the SWAC and RFAC committees was Joyce Hatala, Michele Nestor and Bob Watts. Tanya entertained additional nominations for Vice-chair. None were received, and the nominations for Vice-chair were closed. After voting and a count of ballots, Michele Nestor was elected to the position of Chair, and Bob Watts was elected to the position of Vice-chair.

Overview of the Professional Recyclers of Pennsylvania (PROP) Program

Kelly Megonnel, Executive Director, presented an overview of the PROP Program. PROP's mission is to operate a nonprofit, nonpartisan, statewide association of recycling professionals dedicated to promoting and enhancing the interests of the public and private sector recycling and organics collection programs in Pennsylvania. PROP has been incorporated since 1991, and it currently has 19 board members. PROP works to provide waste management, recycling and organics education and outreach; develop skills and resources of the members by enhancing recycling; promote common interests of Pennsylvania's recycling industry; provide networking opportunities amongst industry professionals; research and advocate on behalf of the members; and comment on proposed rules and regulations.

PROP's goals and objectives at a glance are:

1. Administration;
2. Advocacy;
3. Communication;

4. Education & Training;
5. Fundraising;
6. Membership; and
7. Research & Technical Analysis.

Funding sources are as follows:

1. 48% from the Certification Program Contract;
2. 30% from the annual Recycling and Organics Conference;
3. 12% from membership;
4. 8% from the Pennsylvania Recycling Hotline Contract; and
5. 1% from miscellaneous sources.

PROP has 370 members (148 in the private sector and 222 in the public sector).

Among PROP's programs, the most active is the Recycling Professional Certification program. Training classes for certifications are held at various locations throughout Pennsylvania; 5 classes are offered online as well. The certification program is funded by Pennsylvania DEP and Penn State Altoona provides Continuing Education Units (CEUs).

PROP's Annual Recycling & Organics Conference provides an opportunity for industry networking. This year's "Rolling Out the Green Carpet" for recycling conference will be held July 24-26, 2013 at The Woodlands Resort located in Wilkes-Barre.

Beginning in 2013, PROP introduced Customized Recycling Training Programs which provide customized training programs to businesses or organizations that, for example, wish to provide education on Act 101 and recycling problems to a broader audience without getting individual CEUs.

Another one of PROP's unique award programs is the "Greensylvania Paper Award," a paper recycling challenge for Pennsylvania's K-12 schools. This year's winner was Riverside Elementary West in Lackawanna County. The school was provided an awards ceremony which featured "The Illusion Maker".

The Waste Watcher recognition program and Annual Recycling Film Festival are other unique programs that are provided.

Overview of the Solid Waste Association of North America (SWANA) Keystone Chapter

Tim Hartman, President of the Keystone Chapter, presented an overview of the SWANA Keystone Chapter.

The mission of SWANA is advancing the practice of environmentally and economically sound management of municipal solid waste in North America. This is accomplished through training and knowledge transfer.

SWANA International has more than 8,000 members, including 67 International Board Members. There are 46 Chapters across the U.S., Canada and the Caribbean; each of the Chapters has representation on the board. Membership ranges from CEOs all the way down through solid waste facility managers and more.

SWANA International's goals are as follows:

1. Advocacy and advancing the mission of the Association to create a sense of professionalism and responsibility in the waste industry.
2. Training, education and information, provided through technical assistance, Technical Divisions and Training and Certification programs.
3. Research, Development and Demonstration, provided through grants and the Applied Research Foundation; needs assessment drives the Research and Development grants.
4. Unity in Management and Operations from the International Board down through the Members.
5. Business Development, generating revenue to support the mission through dues, grants, time and talent of members. This is the foundation and main drive of SWANA.

The local Chapter level is the primary and most direct connection for its members. SWANA hosts many programs and activities through the local chapter, including:

1. Academic scholarships
2. Annual regional landfill equipment and truck Road-E-O
3. Annual technical meeting co-sponsored with Pennsylvania DEP, PWIA, and the Pennsylvania Host Municipal Inspectors (PAHMI)
4. Certification training
5. Chapter Committees
6. Legislative tracking and information
7. Mini-technical seminars
8. Networking opportunities with peers and clients
9. Semiannual newsletter

SWANA Keystone Chapter has a Young Professional Program. This provides another opportunity for foster leadership and inspiration for young professionals under the age of 40.

The Keystone Chapter has 219 active members comprised of public sector, private sector and business individuals, retired members and life members. There are 10 active committees in the Keystone Chapter. Its affiliates include PROP, PWIA, the Pennsylvania Municipal Authorities Association (PMAA), the Pennsylvania Host Municipal Inspectors (PAHMI), and Keep Pennsylvania Beautiful (KPB).

Origins of TENORM-containing Drill Cuttings and Treatment Sludges in Pennsylvania

Ali Tarquino Morris presented the Origins of TENORM-containing Drill Cuttings and Treatment Sludges in the 2012 Calendar Year. BWM evaluated the origin, or generating location, of each load of TENORM-containing drill cuttings and treatment sludges from wastewater treatment plants that received wastewaters from oil and gas well development operations and well sites with on-site wastewater treatment operations that were disposed in Pennsylvania landfills in 2012. Both drill cuttings and treatment sludges are defined as TENORM by Pennsylvania's Residual Waste Management Regulations. From these two waste streams, 995 loads were disposed in Pennsylvania in 2012, all of which were generated from oil and gas related activities and tripped a radiation monitoring alarm at a landfill. The 995 waste loads evaluated represent a subset of the total number of oil and gas waste loads accepted for disposal in 2012.

Based on the 2012 disposal data reported to DEP, BWM generated maps showing the origin of the 995 loads of drill cuttings and treatment sludges, calculated the number of loads originating from each location and the

average dose rate measured from each location. The findings of BWM's evaluation of the 2012 disposal data are summarized as follows:

Drill Cuttings:

1. The data indicate that the majority of TENORM-containing drill cuttings that tripped a landfill alarm originated from the western part of Pennsylvania in areas of wet gas development, even though significantly more wells were drilled in the Northeast portion of Pennsylvania.
2. 99% of the TENORM-containing loads of drill cuttings originated from portions of the Marcellus shale formation that are less than 150 feet thick and between 4,000 and 8,000 feet deep.
3. Generally, the dose rates measured from loads of drill cuttings is lower than the dose rates measured from loads of treatment sludges.

Treatment sludges:

1. There are no discernible patterns based on the originating location for the treatment sludges. This is most likely because the wastewater treatment operations are taking wastewater from multiple well pads or companies. Therefore, the location from which those waters originated is not known.
2. Generally, the dose rates measured from loads of treatment sludges are higher and more variable than the dose rates measured from loads of drill cuttings.

BWM will continue to monitor TENORM-containing waste that is disposed in Pennsylvania landfills; evaluate the 2013 disposal data for similar patterns; and provide updates on its findings to SWAC.

Public Comment; New Business

No comments were presented.

The meeting adjourned at 2:45 p.m.