

ENVIRONMENTAL SYNOPSIS

The Chairman's Corner

Sen. Scott E. Hutchinson, Chairman



The Joint Legislative Air and Water Pollution Control and Conservation Committee held its first Environmental Issues Forum of 2013 on February 11.

For those who may be unfamiliar with the committee's forums, they are informal and informational meetings, usually about 45 minutes to an hour long, and held once a month on a legislative session day in those months in which the PA General Assembly is in session.

Each forum covers a specific topic as presented by a knowledgeable guest speaker (or speakers), and is intended to educate and inform its audience about a subject that might otherwise be ignored, or about which attendees may not have heard or not had the opportunity to explore on their own. The topics are diverse, but are environmentally-related in nature as befits the mission and duties of the committee.

The audience is diverse as well, including members and staff of the legislature, employees and officials from the state's executive departments and other state agencies, lobbyists, non-governmental organizations, legislative information services and the general public. News media coverage is invited and welcomed.

If you would like to be informed about the forums, your name can be added to an e-mail list that the committee staff sends out in advance of each event. To be added to that e-mail list, please e-mail committee staff member Geoff MacLaughlin at gmaclaughlin@jcc.legis.state.pa.us or call him at 717-787-7570, ext. 16. We welcome public attendance, and the information presented is relevant to all Pennsylvanians.

The February 11 program is a good example of what the committee tries to accomplish with the forums.

The topic in general was one which is well known – drilling for gas in the Marcellus shale formation in Pennsylvania. It is a topic that has received extensive press coverage and is familiar to just about all commonwealth residents.

However, the specific topic of the forum covered a segment of the gas drilling operations that is much less talked about, but very important.

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NOTES FROM THE DIRECTOR

CRAIG D. BROOKS, EXECUTIVE DIRECTOR



In the United States, there are 15,800 municipal sanitary sewer systems and 5,000 satellite collection systems that convey wastewater through municipal sewer systems for treatment at publically owned wastewater facilities. These facilities often need assistance with handling large volumes of water entering their systems during wet weather events.

Because of this, the National Association of Clean Water Agencies (NACWA) has developed draft legislation that would require the Environmental Protection Agency (EPA) to set modified water quality standards and permit levels for sanitary sewer systems during heavy rains and wet weather events. The purpose of the draft language in the Wet Weather Community Sustainability Act is to enable publically owned wastewater facilities to manage wastewater flows during heavy rains from sanitary sewers in the most cost-effective and environmentally efficient manner.

Specifically, the draft language would enable the EPA administrator to work with states to allow publically owned wastewater utilities with approved wet weather management plans to modify effluent limits for pollutants, using techniques and guidelines approved and developed by the agency for sanitary sewer wet weather events. Also, the draft language would allow states the option of developing peak wet weather related water quality standards. The language would then enable EPA to consult with states in publishing guidelines to develop water quality standards to accommodate peak wet weather discharges.

NACWA released the discussion draft in February 2013. It came on the heels of EPA's announcement that it will continue to focus on municipal sewage discharges as part of its enforcement priorities for 2014 through 2016.

The language would amend sections 301, 303

and 304 of the Clean Water Act. EPA sets technology-based standards and effluent limits for discharges under Section 301 of the Clean Water Act, while Section 303 gives states the authority to set water quality standards based on criteria set by EPA. Section 304(d) deals with the publication of guidelines on the technologies used to meet effluent limits. The draft language notes that wastewater flows during heavy rains can overload a municipal sanitary sewer system that conveys both stormwater and wastewater. That is because stormwater enters the sewer system through infiltration and inflow that occur when groundwater enters collection systems through broken pipes, defective joints or inappropriate connections.

Moreover, NACWA noted in the discussion draft that the added challenge of climate change will result in communities facing further unpredictable and intensive precipitation events that will overwhelm sewer systems, including treatment processes, and increasingly result in unwanted sewer overflows. While there is language in EPA regulations to deal with combined sewer overflows, NACWA says that there is no such language or provision for sanitary sewer overflows.

EPA has estimated that more than \$48 billion is needed to correct infiltration and inflow throughout the country with no expectation that overflows will be limited. The expected investment is in addition to the over \$290 billion EPA estimates that communities must invest to address general wastewater and stormwater management needs over the next 20 years, and \$335 billion communities must invest to address drinking water needs.

A copy of the draft Wet Weather Community Sustainability Act is available at: <http://op.bna.com/env,nsf/r?Open=smy-94msuf>.

RESEARCH BRIEFS

Each month, the committee's staff researches and prepares a number of "briefs" on several topics relevant to the Joint Conservation Committee's mission.

Very often, these briefs include references to reports and further research on the topics so that readers may pursue issues on their own.

Please Note: The information and opinions expressed in the Research Brief articles do not necessarily represent the opinions or positions of the Joint Legislative Air and Water Pollution Control and Conservation Committee, nor those of the Pennsylvania General Assembly.

GAO Report Identifies Ways to Improve Pipeline Safety

-- Tony M. Guerrieri, Research Analyst

Natural gas pipeline operators and their regulators have come under heightened scrutiny following the fatal 2010 explosion of a gas pipeline in California, and a fatal 2011 explosion in Allentown, Pennsylvania. More recently, a gas pipeline in West Virginia exploded December 11, 2012, destroying four homes and damaging an interstate highway. These are dramatic examples of what the pipeline industry calls "significant pipeline incidents."

Such problems appear to be increasing as the nation's network of 2.5 million miles of oil, gas, and other liquid pipelines grows. While a slew of federal and state agencies oversee some aspect of America's pipelines, the bulk of government monitoring falls to a small agency within the U.S. Department of Transportation called the Pipeline and Hazardous Materials Safety Administration (PHMSA).

A report by the U.S. Government Accountability Office (GAO) assesses pipeline safety and offers recommendations on its improvement. The GAO report, "*Pipeline Safety: Better Data and Guidance Needed to Improve Pipeline Operator Incident Response*", examined:

- (1) opportunities to improve the ability of pipeline operators to respond to incidents; and
- (2) the advantages and disadvantages of installing key emergency response technology.

Fuel transportation via pipeline is considered by many to be a much safer alternative to tanker trucks or freight trains. From 2007 to 2011, there was an average of about 14 fatalities per year for all pipeline incidents reported to PHMSA. In 2010, nearly 3,700 fatalities resulted from incidents involving large trucks, and another 730 fatalities were linked to railroad incidents.

In its assessment, the GAO examined incident data, and interviewed selected operators, industry stakeholders, and PHMSA officials. The goal was to identify op-

portunities to improve the ability of pipeline operators to ensure they can quickly stop the flow of gas during an emergency.

The first recommendation that the GAO made was to improve the reliability of incident response data and use that data to decide whether to implement a performance-based framework for incident response times. The GAO noted in its report that while the PHMSA currently collects data related to incident response times, it does not accurately identify the response times. The GAO concluded that the current data regarding response times is unreliable because operators are not required to report the time and date when the incident was identified, when resources arrived on site, or when the pipeline was shut down or restarted, all of which leads to an inconsistent interpretation of response times.

Addressing "significant pipeline incidents" is one big aim of a GAO study assessing pipeline safety

With regard to its second recommendation, the GAO noted that while PHMSA currently operates a variety of information-sharing activities, it does not collect or share information that other operators use when deciding whether to install automatic or remotely controlled shutoff valves. The GAO noted in the report that automated valves decrease response time to an incident. As such, while automated valves cannot reduce the initial effects of an incident, they can help reduce the consequences of accidents to the public, environment and property.

While highlighting the advantages of automated valves, the GAO also noted that automated valves can create new problems. Aside from accidental closures that can disrupt service to pipeline customers, the valves can malfunction and rupture the pipeline.

Because advantages and disadvantages of installing an automated valve are closely related to the specifics of the valve's location, it is appropriate to decide whether to install automated valves on a case-by-case basis, the report states. Several operators the GAO spoke with have developed approaches to evaluate the advantages and disadvantages of installing automated valves, including software to estimate the amount of spillage and extent of damage in the event of an incident.

The GAO concluded that this type of information should be shared with operators in order to assist them in determining whether automated valves are the best option for meeting a performance-based response goal. The cost of installing automatic valves, the GAO reported, ranged from \$35,000 to \$325,000.

In its report, the GAO also criticized the PHMSA for telling pipeline operators to respond to emergencies in a "prompt and effective" manner, but not defining exactly what that means. Incident response times catalogued by the GAO ranged from 1 minute to seven days.

The GAO pipeline report was required by the Pipeline Safety, Regulatory Certainty and Job Creation Act of 2011. The GAO report, "*Pipeline Safety: Better Data and Guidance Needed to Improve Pipeline Operator Incident Response*", can be viewed and downloaded at: <http://www.gao.gov/assets/660/651408.pdf>.

EPA Proposal Would Require Additional Renewable Fuels in Gasoline Supply

-- Craig D. Brooks, Executive Director

The Environmental Protection Agency (EPA) is proposing to require that 16.55 billion gallons of renewable fuels, including 14 million gallons of cellulosic ethanol, be blended into the nation's gasoline supply in 2013. In a proposed rule released in January 2013, EPA indicated it intends to increase the cellulosic ethanol requirement by more than 60 percent from 2012 levels despite a federal appeals court decision criticizing the agency for consistently overestimating cellulosic biofuels production. The 2013 proposal would increase the standard requirements by 1.35 billion gallons over 2012 levels.

Renewable fuels will account for 9.63 percent of the nation's fuel supply in 2013. The proposed standard includes a requirement that petroleum refiners blend 2.75 billion gallons of advanced biofuels, which includes cellulosic ethanol, into the gasoline supply.

Additionally, EPA issued a separate proposed rule that would establish a voluntary quality assurance program for renewable identification numbers (RIN).

The 14 million gallon cellulosic ethanol mandate for 2013 is up 8.65 million gallons from 2012. Cellulosic ethanol production has lagged behind other renewable fuels produced in the United States, according to EPA. The renewable fuels standard numbers are largely dictated by the Energy Independence and Security Act, but EPA has discretion to reduce the cellulosic ethanol component of the standard. The act requires 1 billion gallons of cellulosic ethanol in 2013.

The U.S. Court of Appeals for the District of Columbia Circuit vacated the 2012 requirement after it was challenged by the petroleum industry. The court said that EPA must set annual blending standards based on projections of actual cellulosic ethanol production rather than setting targets meant to spur investment in the fuel. EPA indicated in its January 2013 proposal that it is abiding by the court's decision even though it has chosen to increase the requirement for 2013.

EPA intends to increase the cellulosic ethanol requirement in renewable fuels despite criticism and an earlier court decision

Despite progress made by the cellulosic ethanol industry, petroleum refiners - and others - are skeptical of EPA's proposal. According to the American Petroleum Institute (API), biofuels producers have promised high cellulosic ethanol production for the past four years and EPA uses these claims to set national mandates. However, the promised production hasn't happened. Because of this, petroleum refiners would have to purchase \$8 million worth of renewable fuels credits from EPA due to the lack of cellulosic ethanol available. API is challenging the requirement.

Although EPA reduced the cellulosic ethanol component of the renewable fuel standard, the agency chose not to reduce the overall advanced biofuels requirement. Cellulosic ethanol is a subset of advanced biofuels. This raised concerns by environmental advocates and renewable fuels producers alike. EPA has not waived the overall advanced biofuels requirement in past years when it has reduced the cellulosic ethanol mandate. Instead, the agency has said sugar cane ethanol and biodiesel would be able to cover the difference.

The Renewable Fuels Association has also expressed concern that retaining the advanced biofuels requirement would increase imports of more expen-

sive sugar cane ethanol from Brazil. According to the ethanol trade group, imports account for 92 percent of the advanced biofuels used to comply with the 2012 standard.

EPA accepted comments on its proposed renewable fuel standard (RFS) volume requirement rule for 45 days after it was published in January 2013, and several groups have filed lawsuits challenging the requirement.

According to a coalition of petroleum refiners, marine engine manufacturers and environmental groups, the current renewable fuels standard program is unworkable and should be repealed or reformed. The groups argue that the renewable fuel standard diverts corn from agriculture to produce ethanol, contributes to global food shortages, encourages farming of grasslands and encourages blends in gasoline that damage vehicles currently on the road. The groups further argue that 15 percent of the global corn production in 2012 was diverted to ethanol production. Using corn to make ethanol increased food prices by \$11 billion by countries that are net importers of corn.

An estimated 23 million acres of grassland and wetlands have been converted in the last four years as corn growers try to keep up with the demand by EPA and the renewable fuels standard.

The proposed rule for setting RFS requirements is available at: <http://www.epa.gov/otaq/fuels/renewablefuels/documents/rfs-2013-standards-nrpm.pdf>.

Environmentalists Rank the “Greenest” U.S. Presidents

-- Tony M. Guerrieri, Research Analyst

During presidential campaigns, it is not unusual to hear candidates from both parties say they will focus on protecting the nation’s natural resources and its environment. But how well have presidents delivered on that promise once in the White House? That is the question that Corporate Knights, a media and financial services company that promotes “clean capitalism” for companies, asked the leaders of several influential national environmental groups.

In the report, *“America’s Greenest Presidents: Exploring an Environmental Legacy”*, the heads of 12 major environmental organizations were asked to nominate up to three past presidents they believed had, either directly or indirectly, the most profound impact on the environment during their presidencies.

Ranking presidents in terms of green criteria is no easy task. What counts as “green”? Is it love of nature

or legislation passed? Do good intentions count or are results all that matters?

Given these questions, each environmental group’s top presidential pick received three points, second pick two points, and third pick one point. Total points were tallied to reach the final ranking. Perhaps most strikingly, of the 44 presidents who have held office over the last 223 years, only eight received votes.

The results reveal a surprising degree of consensus. The survey had one clear winner – one president who dominated with 28 points. Second and third received about half that, with 15 and 13 respectively. Fourth place fell to seven points, fifth to just three.

How easy is it for a president to be green, and who did it the best?

The results show that protection of the natural world has a long tradition with both Democrats and Republicans. When the combined votes were recorded, Republican presidents captured the two top spots in the ranking, followed by two democrats.

The easy winner was Republican Theodore Roosevelt (scoring 28 points), followed by Republican Richard M. Nixon (15 points), Democrat Jimmy Carter (13 points), and Democrat Barack Obama (scoring seven points). The other four in order were Democrat-Republican Thomas Jefferson (3 points), Democrat Franklin D. Roosevelt and Republican Gerald Ford tied for sixth with two points, and Democrat Bill Clinton in last place among the eight with one point.

The report highlights the environmental record of the top four presidents and what they were able to accomplish in their terms of office.

Teddy Roosevelt appeared on all but one of the 12 “greenest” lists and at the top of eight. He is often thought of as one of the foremost environmentalists, as far as presidents go. On March 14, 1903, Roosevelt signed an executive order establishing the first national wildlife refuge in Florida’s Pelican Island. By the time he left office in 1908, he had set aside 150 national forests, 51 federal bird reservations, 18 national monuments and five national parks.

America’s thirty-seventh president, Richard Nixon, created the U.S. Environmental Protection Agency in 1970. During his presidency he signed several landmark pieces of environmental legislation including the National Environmental Policy Act (which, among other things, created the White House Council on Environmental Quality), a powerful extension of the Clean Air Act, the Marine Mammal Protection Act, the

Safe Drinking Water Act, the Federal Environmental Pesticide Control Act and the Endangered Species Act. Nixon was placed first by two groups. He was chosen second by two and five placed him number three.

Carter, like Teddy Roosevelt, was cited for using his office to expand the frontiers of the environmental movement, in his case with an emphasis on energy alternatives and efficiency. For example, he installed solar panels on the roof of the White House. He created the U.S. Department of Energy, which he hoped would encourage the use of alternative fuels. Also, he signed into law several acts such as the Soil and Water Conservation Act, Endangered American Wilderness Act, and Superfund Act.

The Corporate Knights report, *"America's Greenest Presidents: Exploring an Environmental Legacy"*, which also includes each judge's selection, is available at: http://corporateknights.com/sites/default/files/Special_Report.pdf.

Energy Department Moving Forward With FutureGen Carbon Capture Project

-- Craig D. Brooks, Executive Director

The Department of Energy (DOE) announced it will proceed with the second phase of a "near-zero emission" carbon capture and storage demonstration project known as FutureGen 2.0.

DOE's approval in February 2013 allows the start of permitting, environmental review, design and other preconstruction activities related to retrofitting a coal-fired power plant.

The project, which is expected to cost more than \$1.5 billion, would equip a coal-fired power plant in Meredosia, Illinois to capture more than 90 percent of the plant's carbon emissions, or more than 1 million tons of carbon dioxide a year. According to DOE, the agency is committed to the demonstration of carbon capture and storage technologies and believes FutureGen 2.0 is an important step in making economic and commercial carbon capture and storage a reality.

Overall, the project will be completed in four phases, with construction scheduled to begin in 2014 and commercial operations in 2017. DOE's approval to proceed with Phase II of the project represents a critical decision to continue with what will be the largest carbon capture and sequestration project in the United States. By agreeing to the project, DOE is confident that the project can be completed as proposed and fully functional by the proposed dates.

The decision to proceed also comes as the project faces a September 30, 2015 deadline to use \$1 billion in American Recovery and Reinvestment Act funding granted for the project through DOE. The FutureGen Industrial Alliance is a non-profit organization made up of coal mining and electric power companies that are backing the project.

Approval of the project follows an agreement reached by DOE and the FutureGen Industrial Alliance. It comes after completion of the project's first phase, which included the identification of a sequestration site, test drillings and a commitment for power purchase plans from the Illinois Commerce Commission.



The project, which will be the first of its kind when completed, will pipe carbon dioxide emissions from the Ameren Energy Resources power plant in Meredosia to an underground storage site 30 miles away in Morgan City, Illinois. According to DOE, the project will use a process known as oxy-combustion that burns coal using purified oxygen to produce a purified carbon dioxide emissions stream that is easier to capture than the diluted carbon dioxide resulting from traditional burning of coal with ambient air.

While FutureGen would be the largest demonstration project, other carbon capture and storage demonstration projects are in the pipeline as well, such as the 582 megawatt Kemper County energy facility in Mississippi, which is under construction and expected to come online in 2014.

Still other projects under construction include a 400 megawatt Texas Clean Energy Project in Ector County, Texas, being developed by the Summit Power Group, which could also begin operations as soon as 2014.

Funding for these facilities is supported by DOE's Clean Coal Power Initiative.

ON THE HORIZON...

A LOOK AT UPCOMING EVENTS

✓ **Monday, April 8, 2013, 12 noon, Room 8E-B, Capitol East Wing, Capitol complex, Harrisburg, PA – Environmental Issues Forum.**

The PA American Water Company of Hershey, Rentricity, Inc. of New York, and the Westmoreland (PA) County Municipal Authority will make a presentation on a new technology that has been implemented at two energy recovery demonstration projects in western Pennsylvania. Rentricity's turbine generator system captures the hydro-kinetic energy created when water flows through pipes from the water sources to the treatment plants, reducing electricity demand and cutting down on greenhouse gas emissions.

✓ **Monday, May 6, 2013, 12 noon, Meeting room to be determined, Capitol complex, Harrisburg, PA – Environmental Issues Forum.**

PA Fish and Boat Commission Executive Director John Arway will offer a presentation entitled "PA Fish and Boat Commission Fiscal Slope: Spending Reallocation Plan and Revenue Generating Options." The presentation will focus on the agency's need to reduce operating costs, and to fund infrastructure needs. Among potential revenue generating options to be discussed is a proposed fee for consumptive use and degradation of water.

✓ **Monday, June 17, 2013, 12 noon, Meeting room to be determined, Capitol complex, Harrisburg, PA – Environmental Issues Forum.**

Dr. David J. Nowak, Ph.D, project leader for the USDA Forest Service's Northern Research Station, will discuss the agency's innovative "i-Tree" program. Nowak was the driving force behind development of i-Tree's suite of software tools that helps users assess and manage urban tree populations to make for effective urban forest management and better understanding of the ecosystem services provided by community trees.

Please e-mail Geoff MacLaughlin in the committee office at gmaclaughlin@jcc.legis.state.pa.us or call Geoff at 717-787-7570 if you plan to attend the Environmental Issues Forum.

And, check the committee website at <http://jcc.legis.state.pa.us> for events that may be added to the schedule.

Why Not Switch to "E-Synopsis"

You can receive the *Environmental Synopsis* electronically if you don't want to wait for the mail to be delivered or you want to help the committee save paper and reduce mailing costs.

If readers would like to change the method in which they receive the *Synopsis* from mailed hard copy to an e-mailed version, please contact Geoff MacLaughlin at 717-787-7570, or by e-mail at gmaclaughlin@jcc.legis.state.pa.us requesting to be removed from the mailing list and added to the e-mail list. Remember to provide your e-mail address.

Readers are also reminded that the *Synopsis* is available on the committee website each month after the *Synopsis*'s printing. The website address is <http://jcc.legis.state.pa.us>.



The topic was the recycling of used drilling site well pad geomembrane liners. This new niche industry of the larger gas drilling industry was and is interesting for several reasons.

First, is the environmental importance. Instead of liners being landfilled haphazardly, this material is now being more carefully collected, cleaned, treated and properly recycled. It lessens dumping, it saves landfill space and it is more environmentally sound. When you consider that approximately 81 million pounds of geomembrane liner was laid down in 2012 alone, the environmental significance is obvious.

Just as importantly, new products are being made from the used liners. These products, like railroad ties, pellets, buckets and pipe for example (samples of some of which were displayed at the forum), can create new markets for products which can be put to use around Pennsylvania, the nation and the world.

To check on the schedule of upcoming Environmental Issues Forums, visit the committee's website at <http://jcc.legis.state.pa.us>

That is part of the very important economic impact the recycling initiative is having and will continue to have, building new markets and creating jobs. First of all the new recycling industry was created through the use of a creative partnership between the Pennsylvania Recycling Markets Center (RMC) and two private Pennsylvania-based entrepreneurs – Ultra-Poly Corporation and Wellspring Environmental Services, LLC.

The RMC, a non-profit corporation, is a leader in developing and expanding recycling markets in Pennsylvania. Its mission is to expand and develop more secure and robust markets for recovered (recycled) materials by helping to overcome market barriers and inefficiencies.

In this case, that plan worked exactly as expected. In his presentation Ultra-Poly Vice-president David La Fiura pointed out that while Ultra-Poly had the technology to process and recycle liners, it did not have resources for the collection effort. The RMC connected Ultra-Poly with Wellspring, which owned equipment to pull the used liners off site and transport them, and also had key contacts at the drill sites. The two companies formed a partnership and continue to work together closely.

In 2012, Ultra-Poly installed a new facility in Berwick and invested \$2 million in the plant and equipment. The project created 15 immediate jobs with long term plans to employ 45 and meant significant contributions to the local tax base. In the meantime, the partners continue to learn more about their new industry and are making refinements and improvements to maximize success. As a matter of fact, Ultra-Poly is contemplating expansion.

Connections like the one made by RMC, Ultra-Poly and Wellspring Environmental are important to furthering economic growth and environmental progress in Pennsylvania. The committee was pleased to be able to help tell their story.

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