



The PIOGA press

The monthly newsletter of the Pennsylvania Independent Oil & Gas Association

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What have we done for you lately?

Pipeline & Gas Market Development Committee looks toward 2017

By Joyce Turkaly,
Director, Natural Gas Market Development

The start of a new year is a time to reflect on the events of the past year and look ahead to the coming year, and we in PIOGA's Pipeline & Gas Market Development (PGMD) Committee are always adapting our discussions to include our members' interests and initiatives in areas of downstream markets.

2016 projects initiated much needed demand increases: Admittedly the largest demand sector, gas-fired electric generation plants commissioned in central and northeastern Pennsylvania consumed upward of 2 Bcf/day alone. Abundant, reliable, natural gas supplies combined with the Environmental Protection Agency's Clean Air Act initiatives were the primary drivers. However, in 2012 PIOGA was the first oil and gas association to kickstart discussions on how development should occur and what impact generators and the wholesale market would have on supply. PIOGA's PGMD members have been intimately involved in gas and electric coordination efforts at both the federal and state level. Helped by Federal Energy Regulatory Commission (FERC) Order 787 in 2013, interstate pipelines are able to share nonpublic operational information with wholesale dispatchers of electricity, thereby addressing grid reliability concerns.

Locally produced gas was constrained more than ever last year and those producers who could serve the power generation market via distributed generation completed individual projects, which in turn sold electricity into the PJM wholesale market. Most importantly, PGMD structured a subcommittee that supported much-needed public out-facing events intended to help educate local decision makers on responsible pipeline development and FERC letter writing campaigns on behalf of Sunoco, Williams, UGI and National Fuel pipeline projects, to name a few. Utility rules and rates, as well as marketer and supplier rules and regulations, will continue to be monitored under PGMD,

especially when assessing fair access to and equitable treatment within retail markets where natural gas competes alongside renewables.

In 2016, the PGMD Committee deployed committee subject matter experts in front of many different audiences. The antis stepped up their game on social media in 2016. Take for example the Shell petrochemical project in Beaver County. Prior to the Potter Township conditional use permit hearing in December, PGMD's work to support the end use of natural gas liquids locally (in the form of ethane), support the site construction and manufacturing jobs, pipeline infrastructure, as well as supply chain economic development in the region, was preempted by an anti-industry attack that sought to confuse the residents of Beaver County on issues of air quality, noise, lighting and real estate. Roughly two months of collaborative efforts came together from both PIOGA team members and Shell on how best to counter the opposition. A four-person PIOGA team comprised of three member companies and PIOGA staff submitted concerted testimony that debunked the opposition's false claims (*see article elsewhere in this issue*).

Described in more detail in the "PIOGA: What have you done for me lately?" information packet, the subcommittees under PGMD have made significant strides in their respective areas of focus. Look for upcoming articles on each of the subcommittees.

New PGMD chair

For 2017, the PGMD Committee has a new chairman, Robert H. Beatty, Jr. of "O" Ring CNG Fuel Systems, LP and Beatty Oil & Gas in Coolspring. Bob's company "O" Ring CNG builds customized turnkey alternative fuel stations (CNG, LNG, GTLs) for private, fleet, and public use and supplies compressed natural gas vehicle fuel for individual or fleet users through his public CNG stations. Promoting the use of natural gas as a cleaner, cost-effective, environmentally friendly fuel, Bob also is a current PIOGA board member and is certified by the Natural Gas Vehicle

Institute of America in both CNG fuel station design and construction and CNG fuel station management.

The PGMD subcommittees will have depth of field in 2017 as our issues become more mature; more hands on deck are always appreciated, so two-person teams will lead discussions as part of our overall agenda.

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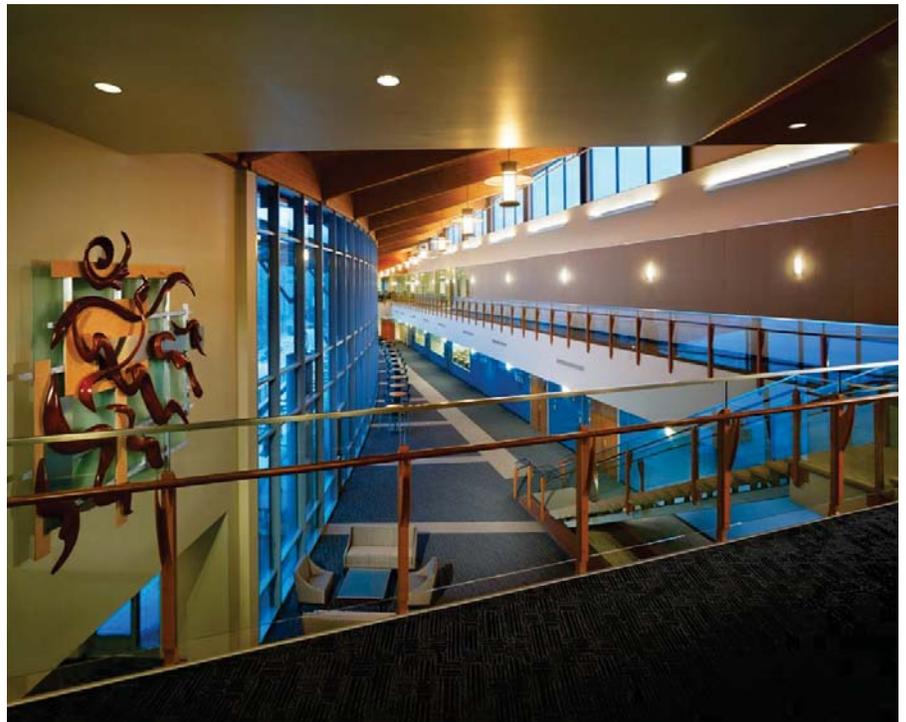
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PGMD outlook: *Continued from page 1*

At November's PIOGA board meeting, Bob offered the following: "As far as future focus, the committee has set a goal to capitalize and expand on past accomplishments; no one sees a need to fix what isn't broken! Specifically in 2017 the PGMD will look to increase committee membership participation, increase depth of committees and subcommittees by encouraging board members and other member participation, increase interaction between committees and increase education initiatives. Most importantly, we will work to seek alternative markets for PA indigenous fuels to find more burner tips, while not losing focus on existing subcommittee goals and successes."

"It is the collective opinion of the PGMD Committee that along with the amazing opportunities presented in the shale gas revolution, there is a potentially dangerous popular belief that shale gas will inevitably replace conventional natural gas production. With a significant portion of our nation's natural gas supply still coming from conventional (Upper Devonian) wells, the industry cannot afford to ignore conventional production. As such, an additional goal in 2017 of the committee will be educating the public and legislators alike on the environmental, economic and energy impact that a decline in conventional production has on the natural gas industry and the state's economy, while proposing sound sustainable solutions for industry growth."

Bob, who previously chaired the PGMD Alternative Fueling Subcommittee, is looking forward to continued progress in this new role, working with the board, staff, subcommittee chairs and members. PIOGA is excited to have him lead the PGMD Committee! ■

The PGMD Committee plans to lead by example by sponsoring projects, practice and participation in areas that will benefit PIOGA members. As always, we should prefer to do business with other PIOGA members. We encourage you to communicate with us frequently, let your feelings be known, and we encourage increased membership among your existing vendors, customers and associates. Let's work together to make 2017 a great year for PIOGA and the Pennsylvania oil and natural gas industries overall. Please contact Bob Beatty at rhbeatty@gmail.com or Joyce Turkaly at joyce@pioga.org.



PIOGA President & Executive Director Dan Weaver thanks outgoing PGMD chair Bob Eckle (right) for his years of service to the committee at December's Board of Directors meeting.



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2017 PIOGA Winter Meeting

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Rolling With Change



The energy production business is often a calculated gamble—those who are best informed often are able to roll a winning combination. Join us at our 2017 Winter Meeting on February 1 at Rivers Casino on Pittsburgh's North Shore to gain the knowledge to help your company succeed in these changing times for the oil and natural gas industry.

As you can see from the accompanying agenda, we are excited to present an array of distinguished speakers on a wide range of topics including as economics, regulatory and legislative matters, and industry opportunities.

Additionally, this year's meeting will feature an exhibitors' row, and as always there will be plenty of time for networking. Afterward, stay for the reception and \$10 slots play for all. There are even learn-to-play sessions for new players.

It's going to be an excellent day of learning, networking and fun! Be sure to register by January 25. Go to www.pioga.org > News/Events > PIOGA Events to learn more and register now.



Schedule

8:00-9:15 a.m. — **Registration and Exhibits Open**

9:15-9:20 — **Conference Opens & Welcome**
Gary Slagel, PIOGA Board Chairman

9:20-10:00 — **Global Chemicals Manufacturing to the U.S. Due to the Shale Revolution**
Tom Gellrich, Topline Analytics

10:00-10:30 — **Appalachian Basin Horizontal Well Activity Overview**
Tim Knobloch, Petroleum Consultants Inc.

10:30-10:50 — **Break and Exhibitor Visits**

10:50-11:30 — **2017 Pennsylvania Regulatory Updates**
Scott Perry, Esq., Deputy Secretary, Office of Oil and Gas Management, PA Department of Environmental Protection

11:30-12:00 p.m. — **Leveraging Pennsylvania's Energy Assets for Economic Growth**
Denise Brinley, PA Department of Community & Economic Development

12:00-1:30 — **Lunch and Keynote Address**
The New Political Landscape
Dr. Terry Madonna, Center for Politics and Public Affairs, Franklin & Marshall College

1:30-2:15 — **Advances in Long Range Weather Forecasting for the Energy Industry**
Joe Bastardi, WeatherBell Analytics, LLC

2:15-3:00 — **Quad O Compliance Methane Regulations**
James Elliott, Spilman Thomas & Battle

3:00-3:20 — **Break and Exhibitor Visits**

3:20-3:45 — **Innovative Ideas for Stranded Gas: The Sunnyside Energy Project**
Robert Beatty, "O" Ring CNG Fuel Systems

3:45-4:45 — **Manufacturing Synergies Staying in Step**
Moderator: Tim Wetzels, PIOGA Manufacturing and Large Volume Consumer Subcommittee

Panelists:

David Fair, SMC Business Councils
Bill Polacek, JWF Industries and Environmental Tank & Container
Petra Mitchell, Catalyst Connections

4:45-5:15 — **A Vision for Pennsylvania: A Legislator's Perspective**
The Honorable Senator Scott Wagner, Pennsylvania Senate

5:15-7:00 — **Cocktail Reception and Casino Time**
\$10 Slot Play for All
Learn to Play Sessions

Call to action:**Conventional oil and gas industry water management in Pennsylvania**

Pennsylvania's conventional oil and natural gas producers must have access to cost-effective water management and disposal options to survive the oil and gas industry's downturn. Yet the water management companies serving the conventional industry in the Commonwealth are now threatened due to declining volumes as a result of the dramatic reduction of drilling and production by the industry, and a regulatory landscape made more stringent with development of shale.

It is time to reset the policies governing central treatment facilities to provide conventional operators a much-needed treatment option while other water treatment and disposal alternatives, such as disposal wells, continue to develop to address the conventional industry's future needs.

A rational and cost-effective solution is available to the state Department of Environmental Protection to allow these treatment facilities to continue serving the conventional industry: maintain their existing permits and recognize the need for treatment requirements separate from those imposed on the unconventional industry, similar to the establishment of separate Chapter 78 and 78a regulations. These treatment facilities and conventional energy producers deserve the chance to continue as a critical segment of Pennsylvania's economy and the thousands of jobs they provide.



To download a fact sheet that describes the issue in more depth, go to www.pioga.org/wp-content/uploads/2017/01/PIOGA-Water-Management-in-PA-v2.pdf.

Contact your legislator now! To look up your state representative and senator and find their contact information, visit www.bipac.net/lookup.asp?g=PIOGA. The document mentioned above is perfect for sharing with your elected officials. ■



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PIOGA testifies in support of Shell's Beaver County cracker project

By Tim Wetzel
BridgeWorks LLC

News coverage of the Shell "cracker" project conditional use hearing at Potter Township, which was held on December 13 and continued into the early morning of the 14, reports testimony by PIOGA in support of the project. This effort, which also included testimony at a Department of Environmental Protection hearing relating to two permits for the project held on December 15, marks the first time that PIOGA has organized support in this way for a downstream project. The real story, however, starts several months earlier.

As reported in the December 2016 *PIOGA Press* article "Organized opposition to Shell's Beaver cracker project: A call to action," I had observed mounting concerns from residents of neighboring communities regarding environmental impacts of the facility at an earlier Potter Township hearing, and was aware of increasingly aggressive efforts by groups from outside Beaver County to mount opposition to the project. Unfortunately, concerned area residents were clearly not finding answers to their questions about health, odor, noise and similar emotional considerations in the volumes of factual data that had been released and discussed at public meetings regarding the project. Emotion and fact were not connecting. Information from outside groups relating largely to a very different type of facility was fueling rising emotional concerns.

In response to discussions at the PIOGA Pipeline & Gas Market Development Committee (PGMD) Manufacturing Subcommittee meetings, PIOGA member Jody Eldridge had found an opportunity months earlier to bring a group of fellow members from Civil & Environmental Consultants, Inc. (CEC) into discussions about the issues. This group had become a team of dedicated volunteers who had spent roughly three months researching the environmental aspects of the project. Their work included a thorough review of the volumes of information on the DEP website regarding the cracker project, as well as a formal

DEP file review. Their research was already demonstrating clear, positive environmental impacts from the project as opposed to the "status quo" had the transition from plants historically operating on this section of riverbank to Shell's planned cracker not occurred.

From the outset, it was clear that opposition to the project was based on looking at the project's maximum potential emissions out of context. The opposition discussion was failing to compare those maximum values with the actual (let alone permitted maximum) values of emissions that had been removed by the recent closure of the zinc smelter on the site remediation of the site for reuse for the cracker project and the recent closure of a 1940s-era coal fired cogeneration plant on the same section of the riverbank.

An additional consideration was the question of whether Potter Township supervisors could properly consider questions about air quality impacts during a conditional use hearing. PIOGA counsel Kevin Moody researched this issue and presented the legal framework and conclusions to the entire PGMD Committee at its October meeting in Harrisburg. In short, township supervisors' proper consideration of a conditional use application involving DEP permits is limited to verifying that the applicant has procured the appropriate DEP permits. Consideration of air quality impacts is the purview of DEP and the U.S. Environmental Protection Agency.

One particularly nagging question involved ground-level ozone formation. John McGreevy, who headed the team of volunteers from CEC, spent considerable effort researching this issue before locating the answer buried in the mounds of data: the ability of the local airshed to support ozone formation was limited by the amount of nitrogen oxide (NOx) in the air. Recent plant shutdowns in the area, along with Shell's request to substitute NOx credits for VOC credits in meeting DEP's permit requirements, further reduces the amount of NOx available. The substitution of NOx credits is a further positive with respect to regional air quality. With this question answered, it was clear that the cracker project represents a net positive change to air quality in the Beaver Valley.

I had the amazing opportunity to work with this group of volunteers. We prepared individual remarks on PIOGA's behalf in support of the project at the conditional use hearing based upon

the results of this research by Kevin and John. I started by presenting an overview, emphasizing that the supervisors' role was to see that DEP permits had been approved, and that we were also presenting answers to residents' environmental concerns even though that was not actually within the scope of the supervisors' consideration.

I was followed by Dan Garcia, leader of PIOGA's PGMD Public Relations Subcommittee, and John McGreevy. They spoke on the legal/procedural aspects of the supervisors' consideration and the environmental concerns, respectively. The fourth PIOGA speaker was Joyce Turkaly, who presented additional support citing the breadth of PIOGA's membership. Her testimony was also signed by Dan Weaver. As it happened, PIOGA's four speakers provided the first public testimony accepted into the hearing record by the supervisors. It was truly gratifying to see months of hard work



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come together effectively, bringing factual data together in the context of both the supervisors' procedural responsibilities and residents' emotional questions.

All four of PIOGA's speakers also submitted written testimony. The written procedural and environmental testimony from Dan and John included footnoted references to allow the supervisors to verify the accuracy of the information and conclusions presented. These four documents are available on the PIOGA members' portal.

I want to thank John McGreevy, Dan Garcia, Kevin Moody, Joyce Turkaly, Jody Eldridge and additional members of the CEC team who supported this effort in numerous ways. I believe that PIOGA's first major effort in support of a downstream project succeeded not only in showing support for our outreach to the downstream segment of the industry, but also by demonstrating PIOGA's commitment to education in helping to bridge the gap between factual industry data and questions from citizens to whom data alone can be unclear. Given human nature, context from a party other than the company seeking to advance a project can be helpful. It is my hope



PIOGA's Joyce Turkaly testifies in support of Shell's petrochemical facility on December 13 at a conditional use hearing by the Potter Township Supervisors in Beaver County. Four PIOGA members and staff provided testimony answering residents' concerns about the environmental impacts of the plant and other matters.

that the information gathered by this team might be used for further outreach into the communities surrounding this project. ■

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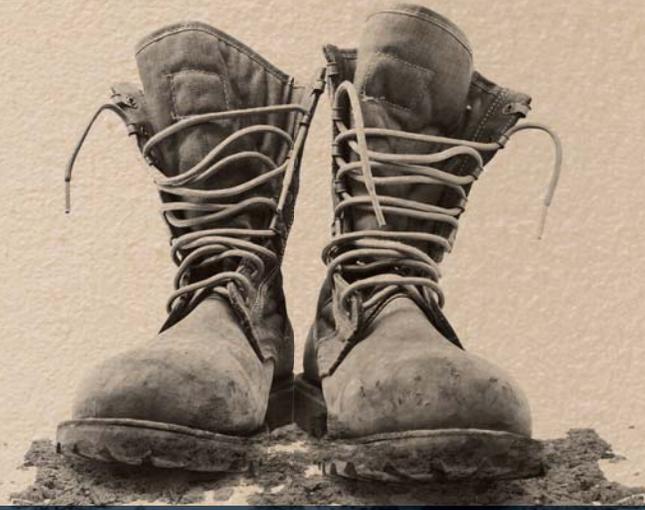
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2017 PIOGA Buyers' Guide is LIVE!

PIOGA is pleased to announce that our 2017 PIOGA Buyers' Guide is LIVE on the website, www.pioga.org! The Buyers' Guide is an interactive "one stop shop" for our members looking for products and services needed for oil and gas operations. Over the past two years we have received many positive comments about this resource available to PIOGA members and other visitors to our website.

The 2017 version of the Buyers' Guide features updated and expanded company and product listings, in addition to other valuable information relating to the oil and gas industry. PIOGA members and other industry professionals now have an efficient way to browse for goods and services.

"We're pleased to continue to offer such a needed resource, which greatly assists industry professionals in making educated purchasing decisions throughout the year," said Dan Weaver, PIOGA's president & executive director.

Our partnership with Strategic Value Media (SVM) has allowed PIOGA to provide more options to our members to

advertise their products and services. All PIOGA Service Provider and Professional Firm members automatically receive a *complimentary* listing in the Buyers' Guide, but your company can work with the SVM to discuss options of upgrading your listing. There are many options that the SVM staff can discuss with you as you determine how much you would like to advertise. Additionally, there are new categories and subcategories in which you can list your company (*see category listing below*).

Service Providers/Professional Firms: Please take a minute to review your Buyers' Guide listing. If you would like to request any changes or to upgrade your listing, email pioga-advertise@svmmedia.com.

If your company or business has not yet taken advantage of this exceptional opportunity to highlight your products and services, it is not too late! To learn more about advertising your products or services in this exclusive service, please email pioga-advertise@svmmedia.com. ■

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The Pennsylvania Storage Tank and Spill Prevention Act and oil and gas operations

As we begin the New Year, many of us in the environmental sector automatically look at our new calendars and realize that this is the beginning of a new season of annual regulatory requirements. These requirements range from annual emissions statements and waste reporting to various certification and registration renewals. For those that have containers at one or more sites, you may be (or should be) asking yourself whether any of those containers must be registered pursuant to Pennsylvania's Storage Tank and Spill Prevention Act, 35 P.S. § 6021, et seq.

What is the Tank Act?

The Tank Act was enacted on July 6, 1989, to: (i) protect surface waters and soil from releases of regulated substances from storage tanks; (ii) provide a statutory mechanism for the cleanup of such releases; and (iii) provide a statutory mechanism to fund the cleanups of releases from underground storage tanks. The regulations promulgated pursuant to the Tank Act can be found in 25 Pa. Code Chapter 245. These regulations cover both above-ground storage tanks (ASTs) and underground storage tanks (USTs).

How the Tank Act applies

Like many environmental statutes, applicability of the Tank

Act is dependent on definitions, most notably the definitions of an AST and a UST. Without directly quoting 25 Pa. Code Chapter 245.1 for the definition of an AST, which is too long for this article, there are five main requirements to meet the definition of an AST. The tank must: (i) be above-ground; (ii) be stationary; (iii) have a capacity greater than 250 gallons; (iv) contain a regulated substance; and (v) the tank does not meet any of the 19 exemptions from the definition of an AST.

Similarly, the four main requirements in the definition of a UST are: (i) the tank must be below ground; (ii) the tank must have a capacity greater than 110 gallons; (iii) the tank must contain a regulated substance; and (iv) the tank must not meet any of the 19 exemptions from the definition of a UST.

Confusion has surfaced regarding several potential issues with these definitions, such as whether an AST is considered to be stationary or if a tank located within a vault below ground is considered a UST. But in general, if a tank appears as though it may meet either of these definitions, it may be subject to the Tank Act and applicability should be closely evaluated.

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Exemptions for oil and gas operations

Typically, there are four exemptions that are applied to oil and gas operations. These exemptions include:

1. Pipeline facilities, including gathering lines, regulated under the Natural Gas Pipeline Safety Act of 1968, 49 U.S.C.A. App. § 1671 et seq. (NGPSA.)
2. A nonstationary tank liquid trap or associated gathering lines directly related to oil and gas production or gathering operations.
3. A flow-through process tank, including, but not limited to, a pressure vessel and oil and water separators.
4. Tanks used to store brines, crude oil, drilling/frac fluids and similar substances or materials and are directly related to the exploration, development or production of crude oil or natural gas regulated under the Oil and Gas Act, 58 P. S. § 601 et seq.

All four of these exemptions can be found under the definition of an AST, whereas only the first three of these exemptions can be found under the UST definition.

It can be troublesome to determine whether any of these exemptions apply at a given facility. For example, the determination of whether or not all equipment at a pipeline facility regulated under the NGPSA is covered by the first exemption listed above often is a fact-specific determination based on the nature of the equipment and how it is connected to the transmission lines. Further, although oil/water separators are exempted from the definitions of an AST and UST, tanks connected to oil/water separators that are used to store the oil are not exempted.

In addition, questions have surfaced regarding the phrases, "directly related to oil and gas production or gathering operations," in the second exemption and "directly related to the

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exploration, development or production of crude oil or natural gas,” in the fourth exemption.

The Department of Environmental Protection has provided some guidance on the applicability of the Tank Act to oil and gas operations. Based on presentations and discussions with the Storage Tank Advisory Committee, DEP has maintained a rule of thumb that tanks located on a well pad are not subject to the Tank Act. However, DEP has indicated that ASTs or USTs located at an ancillary facility, such as a site used only for storage of frac fluid or a compressor station, may be subject to the Tank Act. With that being said, it is still possible for tanks at ancillary facilities to meet one or more of the remaining exemptions from the definitions of an AST and UST.¹

For tanks that are regulated by the Tank Act, there are a host of requirements that must be met depending on the capacity, contents and use of the tank. Some of these requirements, such as registrations and inspections, are recurring requirements that

should be reviewed and scheduled on your 2017 calendars.

Currently, DEP is considering widespread changes to the storage tank regulations including, but not limited to, what modifications may be performed on tanks based on specific tank handler certifications, the permitting process and permit-by-rule requirements, and leak detection and prevention requirements. DEP is working with the Storage Tank Advisory Committee, and the revisions are anticipated to be proposed in the Pennsylvania Bulletin in 2017. ■

For additional information about developments described in this article, contact Timothy S. Bytner at 412-394-6504 or tbytner@babstcalland.com or Jean M. Mosites at 412-394-6468 or jmosites@babstcalland.com.

¹ See meeting minutes from June 7, 2011, Pennsylvania Department of Environmental Protection Storage Tank Advisory Committee Meeting.

DEP developing new standards for expedited review of ESCGP-2 permits

The Department of Environmental Protection has begun revising eligibility standards for expedited review of Erosion and Sediment permit applications related to oil and gas drilling.

The Erosion and Sediment Control General Permits (ESCGP-2) are for earth disturbance of more than 5 acres for oil and gas projects. Under the general permit, projects that meet objective criteria are eligible for a 14-day permit review.

The revisions follow an internal review of two years of permit authorizations, conducted to analyze the consistency and effectiveness of the program from when it began in February 2014 through January 2016. The review revealed that the expedited process has limited application because of technical deficiencies in almost 60 percent of the permit applications submitted, DEP reported.

As a result of the internal review, the department is developing revisions for eligibility for the expedited review, including objective and clear standards for eligibility, return of applications, removal of applications from the expedited process, improved training for staff and industry applicants, and regular evaluation of the program.

“This review concluded that the expedited review process is very challenging for DEP to implement and has not resulted in higher quality applications nor consistency in environmental protections statewide,” Acting DEP Secretary Patrick McDonnell said in a news release. “Through this internal review, we’ve learned that this program only works when DEP receives technically sound and complete application materials at the outset, and we will revise our eligibility requirements accordingly.”

During the review period, DEP received 624 applications for standard review and 1,054 for expedited review. The review found 59 percent of the expedited review applications were disqualified because they were administratively incomplete or technically deficient, while 436 permits were issued.

DEP’s internal reviewers randomly sampled 23 per-

mits proposing earth disturbance activities of 15 acres or more and found that only four met all the applicable regulatory requirements at the outset. Of the 23 approved applications, 16 had been inspected at least once, six were never constructed, and one is under construction currently and has been inspected. Inspections of the reviewed project sites reveal one E&S violation of the expedited permit issued.

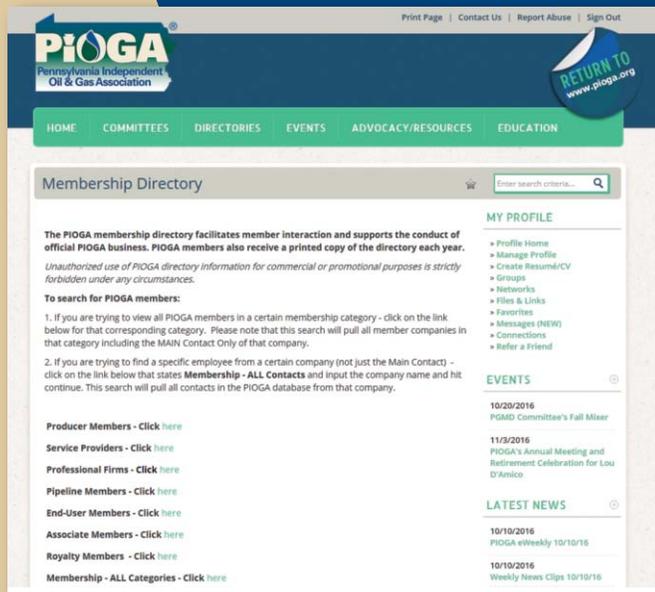
“An application that comes in as ‘expedited’ means you have to look at it right away,” Scott Perry, DEP’s deputy secretary for oil and gas management, told *StateImpact PA*. “We think it’s important we don’t allow permits with significant deficiencies to bog down the process.”

The review can be found at files.dep.state.pa.us/OilGas/BOGM/BOGMPortalFiles/DEP%20Expedited%20Review%20Evaluation%2012.30.16.pdf. ■



Welome, new directors! Attending a recent orientation for new PIOGA Board of Directors members were (left to right, standing)) Beth Powell, Bryan McConnell, Bob Beatty, Sam McLaughlin, (seated) Jennifer Vieweg and Sara Blascovich. Missing from the photo was Bob Garland.

Are you taking advantage of PIOGA's online Members' Only system?



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Here are some of the things you can do:

PIOGA's 'Members Only' Committee Portal Pages—are you using this resource?

Are you a member of the Environmental, Pipeline & Gas Market Development, Legislative or Safety Committee? If so, did you know your committee has its own dedicated **Committee Portal Page** that contains many resources for you to access to help you stay informed of the work of the committee and upcoming meetings?

Highlights of the Committee Portal Pages

- **Committee chair(s) information**—see who the committee chairs are and obtain direct contact information for them if you want to reach out and inform them of an issue you would like covered by the committee or inform them of the volunteer services you could provide to the committee.
- **Group Directory**—see who is on the committee and also get contact information for members.
- **Calendar**—a listing of upcoming monthly meetings and any other committee events.
- **Photo Gallery**—allows for photo sharing of relevant pictures for the committee.
- **Document Library**—the committee pages have the ability for file sharing, allowing members to access all committee meeting materials (even past meetings) and other resource materials. This area also allows subcommittee leaders to post working documents and other informative resources for their subcommittee work.

► Getting there:

Click on Members Only at the top of our homepage, www.pioga.org, and then choose the Committees tab in the green navigation bar

- **Group Feed**—have a question for the committee? Put it out on the Group Feed on the homepage of the portal page. Those members who subscribe to the group feed will receive your comment or question and can reply. Also, in this area, you can see a list of the new members who have joined the committee.

- **New committee members alerts**—want to know who has joined the committee? In your preferences area (in the Manage profile area) you can select *Email me when someone joins a group of which I am a member* and the system will send you an email with their name and contact information. If you are currently receiving those alerts and do not want to continue receiving them, uncheck this preference and you will no longer receive the alerts.

Want to join a committee? An information sheet can be downloaded for each of the committees from the main portal page (see “Getting there” below). If you'd like to become part of a committee, simply click on **Request a membership** on that committee's page and we will add to you to the committee. Once you join, you will have access to the portal pages and all the resources mentioned above.

We hope you're taking advantage of all the great resources that are on our committee portal pages. Please let us know if you have any ideas on how we can enhance this member benefit further. Email Danielle Boston at danielle@pioga.org. ■

Improve tracking of workplace injuries and illnesses

By Carol C. Delfino, CIH, CSP
SE Technologies, LLC

An OSHA final rule which became effective on January 1 has revised the procedure for the agency's Recording and Reporting Occupational Injuries and Illnesses. It requires employers in certain industries to electronically submit injury and illness data that employers are already required to keep under existing OSHA regulations.

The final rule requires:

1. Establishments with 250 or more employees to electronically submit information from their part 1904 recordkeeping forms (forms 300, 300A and 301) to OSHA or OSHA's designee on an annual basis.
2. Establishments with 20 or more employees, but fewer than 250 employees, in certain designated industries, to electronically submit information from their part 1904 annual summary (Form 300A) to OSHA or OSHA's designee on an annual basis.
3. Upon notification, employers must electronically submit information from part 104 recordkeeping forms to OSHA or OSHA's designee.

OSHA will provide a secure website that offers three options for data submission. The site is scheduled to go live in February 2017.

1. Users will be able to manually enter data into a web form.
2. Users will be able to upload a CSV file to process single or multiple establishments at the same time.
3. Users of automated recordkeeping systems will have the ability to transmit data electronically via an API (application programming interface).

Analysis of this data will enable OSHA to use its enforcement

Safety Committee Corner

and compliance assistance resources more efficiently. Some of the data will also be posted to the OSHA website. OSHA believes that public disclosure will encourage employers to improve workplace safety and provide valuable information to workers, job seekers, customers, researchers and the general public. The amount of data submitted will vary depending on the size of company and type of industry.

Compliance schedule

The new reporting requirements will be phased in over two years:

- Establishments with 250 or more employees in industries covered by the recordkeeping regulation must submit information from their 2016 Form 300A by July 1, 2017. These same employers will be required to submit information from all 2017 forms (300A, 300, and 301) by July 1, 2018. Beginning in 2019 and every year thereafter, the information must be submitted by March 2.
 - Establishments with 20-249 employees in certain high-risk industries must submit information from their 2016 Form 300A by July 1, 2017, and their 2017 Form 300A by July 1, 2018. Beginning in 2019 and every year thereafter, the information must be submitted by March 2.
 - OSHA State Plan states must adopt requirements that are substantially identical to the requirements in this final rule within six months after publication of this final rule.
- The sites listed below contain more information regarding the final rule:
- www.osha.gov/recordkeeping/finalrule
 - www.federalregister.gov/documents/2016/05/12/2016-10443/improve-tracking-of-workplace-injuries-and-illnesses ■

Winter road use in the Allegheny National Forest

U.S. Forest Service officials are reminding oil and gas operators in the Allegheny National Forest of protocol on roads jointly shared by vehicles and snowmobiles until April 1. In addition to watching out for snowmobiles and snow-grooming equipment on such roads, the Forest Service recommends following the following guidelines:

- Snowplows are to be equipped with adequate shoes to protect the road surface and leave a snow mat of at least 3 inches or what is required per the timber sale contract or road use permit.

- Once the road is frozen, a snow mat should be maintained by the operator as long as weather permits.
- During icy conditions, sanding



should be used on mixed-use roads; however, the snowplow operator should leave an un-sanded corridor for snowmobiles.

- Commercial and administrative traffic should run with their headlights on.
- Oil and gas operators should post appropriate warning signs per the Manual of Uniform Traffic Control Device standards on segments of joint-use roads with active operations.

Those with questions should contact Rich Hatfield in the Bradford District office at 814-363-6082 or Rob Fallon in the Marienville office at 814-927-5799. The full letter can be found at www.pioga.org/publication_file/USDA-Allegheny-Forest-Letter.pdf. ■

Auditor general report recommends changes in impact fee spending

State Auditor General Eugene DePasquale last month announced an audit report that looked at the collection and distribution of the unconventional well impact fee established by Act 13 of 2012 and the Public Utility Commission's (PUC) administration of the fund that provides Act 13 funds to county and local governments impacted by unconventional natural gas drilling. The report recommends lawmakers revisit Act 13 to make improvements to correct vague spending guidelines, poor reporting requirements and a lack of state oversight.

"The lack of clarity in Act 13 resulted in 24 percent of impact fee funds distributed to the local governments we reviewed being spent on questionable costs such as balancing budget deficits, salaries, operational expenses and entertainment," the auditor general said in releasing the report.

The report focused only on the portion of the funds provided to counties and municipalities and not on the portion of the Act 13 funds directed to state agencies or conservation districts.

There were three objectives in mind when DePasquale's office performed the audit: 1) Whether the PUC has accurately calculated and distributed the impact fee; 2) whether all required reports have been filed with the PUC by the counties and municipalities; and 3) whether counties and municipalities have used the fees in accordance to the law.

DePasquale noted that the PUC did not seek the authority to administer the program and that the commission remains ill equipped to administer the program. As such, DePasquale made the recommendation that the program be transferred to the Department of Community and Economic Development or to the Commonwealth Financing Agency, both of which have experience and expertise in the administration of grant programs.

DePasquale announced two main findings of the audit and provided recommendations that would amend Act 13 of 2012 to address these findings and improve the administrative oversight of the Public Utility Commission, should the program remain with the PUC:

■ **Act 13's lack of clarity regarding proper use, reporting, and monitoring of impact fee funds leads to questionable spending and inaccurate reporting.** Recommendations:

1. Clarify the allowable uses of impact fee funds in Section 2314(g) of the act, including clearly defining the requirement that the funds must be used for purposes "associated with natural gas production."
2. Outline in a concise and straightforward manner any legislatively mandated restrictions on the use of the funds.
3. Grant the PUC, or another state agency, the authority to promulgate regulations regarding the use and any restrictions on impact fee funds, to interpret the use of funds, place any administrative limitations on the use of the funds outlined in the law, and provide regulatory guidance to local governments in a well-defined and consistent manner.
4. Require the PUC, or another state agency, to monitor local governments' spending of impact fee funds.
5. Impose a penalty on local governments that do not submit the required usage report to PUC each year.
6. Require local governments to account for impact fee funds by the reporting year in which they were received.
7. Require local governments to clearly report actual expenditures to PUC each year including the use of funds received from

all prior years.

8. Establish a minimum amount of impact fee funds a local government must receive in a calendar year in order for the reporting requirements to be applicable.

9. Strengthen PUC communications with local governments on the reporting requirements of Act 13 of 2012 and document communications with local governments.

10. The PUC should develop and regularly conduct monitoring of local governments, at least on a sample basis, to ensure spending and reporting of impact fee funds are in compliance with Act 13.

■ **PUC's lack of verification of budget amounts caused inaccurate distributions to certain municipalities.**

Recommendations:

1. Establish a policy to obtain the approved fiscal budget from each municipality that is allocated to receive impact fee funds over the restriction limit to ensure the budget amount used in the calculation of impact fee distributions are consistent, accurate and according to guidelines.
2. Provide training to municipalities to reinforce the PUC's guidelines for determining and reporting budget amounts.
3. Document communications, including attempts to communicate, with local governments to evidence the PUC's diligence in obtaining required information.
4. Obtain the approved fiscal budgets for every municipality that is affected by the restriction provision to verify the budget amount reported is accurate prior to distributing impact fee funds each year;
5. Obtain the approved fiscal budget for every municipality that was affected by the restriction provision from 2011 to present to ensure the payments made to the municipalities were in accordance with Act 13 and PUC guidelines.
6. Correct any overpayments or underpayments to municipalities and adjust the amounts deposited into the Pennsylvania Housing Affordability and Rehabilitation Enhancement Fund accordingly.

PUC response

In a statement responding to DePasquale's report, the PUC pointed out that over the past five years since the passage of Act 13 of 2012 and the inception of Pennsylvania's unconventional gas well impact fee program, the commission has fulfilled its obligation to collect and distribute more than \$1 billion to counties, municipalities and other organizations, an achievement acknowledged in the audit.

The commission also said it has provided and is working to enhance training for municipal officials, including the development of a webinar for municipal budget reporting and additional materials for municipal officials available on the commission's Act 13 website. The PUC also continues to work with statewide associations for townships, boroughs and county commissioners to communicate impact fee issues and entered into a memorandum of understanding with the Department of Community and Economic Development in 2013, to provide ongoing training to municipalities.

Regarding the monitoring of local government spending and verification of budgets submitted by those entities, the PUC emphasized that it is not authorized by law to monitor, audit or

enforce local government spending—something that was clearly acknowledged in the audit report.

Local government reaction

A group representing local governments bristled at conclusions that some counties and municipalities misspent impact fee money. In a press release, David Sanko, executive director of the Pennsylvania State Association of Township Supervisors (PSATS), said DePasquale’s audit came up with “faulty” or “misdirected” conclusions and that the sample size of municipalities audited wasn’t significant enough.

The audit, which includes 20 of 1,487 municipalities that receive money from the fees, concluded that some townships misspent the money on holiday celebrations, payroll and other expenditures and not on mitigating negative effects of gas drilling on communities.

Sanko argued that municipalities are not misusing the funds and DePasquale’s criticism of their spending is a “poorly veiled attempt here to go on a hunting expedition for money that they think is better spent by the state.”

“We feel confident that our member townships are indeed following the Act 13 spending and reporting guidelines,” he said. “PSATS has been diligent in communicating these requirements to its members and has published numerous articles about the act and the 13 categories of eligible expenditures laid out in the law.” ■



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PIOGA Member News

Basin Energy Group adds Appalachian Production Services to its family of companies

Turning Basin Capital announces that its portfolio company, Basin Energy Group, has completed a merger with Appalachian Production Services, Inc. APS joins current Basin operating companies ProActive Services and Starett Energy Services to provide complementary production and midstream services for the natural gas and oil industry in the Appalachian Basin.

The Virginia-based APS has been an industry-leading production and midstream services firm for more than 22 years, specializing in well tending, production enhancement, compressor station operations and roustabout services in Virginia, Kentucky, West Virginia, Pennsylvania, New York, Tennessee and Ohio.

Joining the Basin management team is Frank Henderson, owner and founder of APS. Henderson brings a lifetime of experience in the region as a service provider as well as an operator. He will remain the president of APS and also assume the role of senior vice president of Basin and sit on its board of directors.

Chesapeake Utilities' CHP plant named best project of the year

Power Engineering magazine has named the Chesapeake Utilities Corporation Eight Flags Energy Combined Heat and

Power Plant "Best CHP Project of the Year." The award was announced during last month's POWER-GEN International exposition in Orlando, Florida.

The plant operates on natural gas provided by Florida Public Utilities Company and Peninsula Pipeline Company, two subsidiaries of Chesapeake Utilities, and produces electricity, steam and heated water. Rayonier Advanced Materials purchases the steam and heated water for use in its cellulose specialties production facility. FPU purchases the electricity for distribution to its electric retail customers. The Eight Flags facility, located at the Rayonier Advanced Materials plant at Amelia Island, Florida, generates approximately 20 MW of base load power, producing enough electricity to meet 50 percent of the island's demand. ■

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In our latest move to connect Pennsylvania's energy producers with the OCTG requirements they need, Sooner Pipe L.L.C. purchased McJunkin Corp. Tubular Division effective February 2016. The collective sales force is well prepared to provide you with the best selection of OCTG products and services.

Jim Sheets
724-934-6801 office
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Ben Taylor
614-589-0921 cell
Email:
benjamin.taylor@soonerpipe.com

PIOGA Member Profiles

Introduce your company

Introduce your company and tell other members what you offer to Pennsylvania's oil and gas industry. The guidelines for making a PIOGA Member Profile submission are:

- Include a brief history of your company. When and where was it founded, and by whom? Is the company new to the oil and gas industry in general or to Pennsylvania?
- Describe the products and services you offer specifically for the oil and gas industry. Do you have a product in particular that sets your company apart from the competition?
- If applicable, tell how the business been positively impacted by Pennsylvania's oil and gas industry. Have you expanded, added employees or opened new locations?
- Include a website address and/or phone number.
- Your submission may be a maximum of 400-450 words and should be provided as a Word document. Use minimal formatting—bold and italic fonts are OK, as are bulleted or numbered lists. Your submission is subject to editing for length, clarity and appropriateness.
- Include your company logo or a photo. Images must be high-resolution (300 dots/pixels per inch or higher) and in any common graphics format. Please include identifications for any people or products in a photo. Send image files separately, not embedded in your document.

Email material to Matt Benson at matt@pioga.org. This is a free service to our member companies and publishing dates are at the discretion of PIOGA. If you have questions, email Matt or call 814-778-2291.

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Ten facts about EPA's final drinking water report proving it did not 'reverse course'

By Seth Whitehead

Energy In Depth

A thorough review of the U.S. Environmental Protection Agency's (EPA) 666-page final drinking water report further solidifies what EID previously reported: the substance of the report—its actual data—reinforces the 2015 draft report's topline conclusion that there was no evidence of “wide-spread, systemic impacts” from fracking.

EPA, of course, opted to delete the latter language from its final report. But comments by EPA Deputy Assistant Administrator Thomas Burke reveal that remains EPA's final conclusion. For instance, he recently told CBS This Morning that **“the overall incidence of impacts is low.”**

Of course, there is absolutely no difference between saying the “the overall incidence of impacts is low” and there are “no widespread, systemic impacts.” But unfortunately that fact was lost on much of the media, leading to several misleading headlines, including:

—“Reversing Course, E.P.A. Says Fracking Can Contaminate Drinking Water,” *New York Times*

—“Fracking Can Taint Drinking Water, EPA Report Finds,” *Wall Street Journal*

—“EPA reverses course on fracking safety,” *The Hill*

—“In U-turn, EPA says fracking can pose a threat to drinking water,” *Christian Science Monitor*

—“Environmental Protection Agency: Fracking causes drinking water contamination,” *Salon*

—“EPA Says Yes, Fracking Can Cause Water Contamination,” *San Antonio Current*

Not only did the EPA not reverse course, its claim of “data gaps” was essentially an admission that after six long years it couldn't turn up a shred of evidence proving the oft-repeated activist claim that fracking is an inherent threat to drinking water. To illustrate this, EID decided to revisit its list of 10 important facts to know about the EPA draft report that we published last year. Of course, our review shows that, despite some misleading headlines, **literally nothing regarding the actual substance or data of the report have changed.** And in fact, EPA's study officially closes the book on the environmental activists' deliberate misinformation campaign. Let's review.

Fact #1: Even with greatly expanded definition of hydraulic fracturing and drinking water, EPA still finds no evidence of widespread or systemic contamination.

Both the draft and final versions of the EPA report lump five separate activities related to the fracturing process under one all-encompassing term that EPA refers to as the “hydraulic fractur-

ing water cycle.” As the graphic below from the report illustrates, just one step of this cycle—well injection—directly involves the actual fracking process.

Furthermore, most of the EPA's well injection chapter focuses on well casing issues, which of course, are **not exclusive to fracking.** Water acquisition, chemical mixing, produced water handling and wastewater disposal and reuse are all steps of the oil and gas development process **regardless of whether a well is hydraulically fractured or not.** *Forbes* contributor Robert Rapier touched on the absurdity of this broad definition in a recent op-ed:

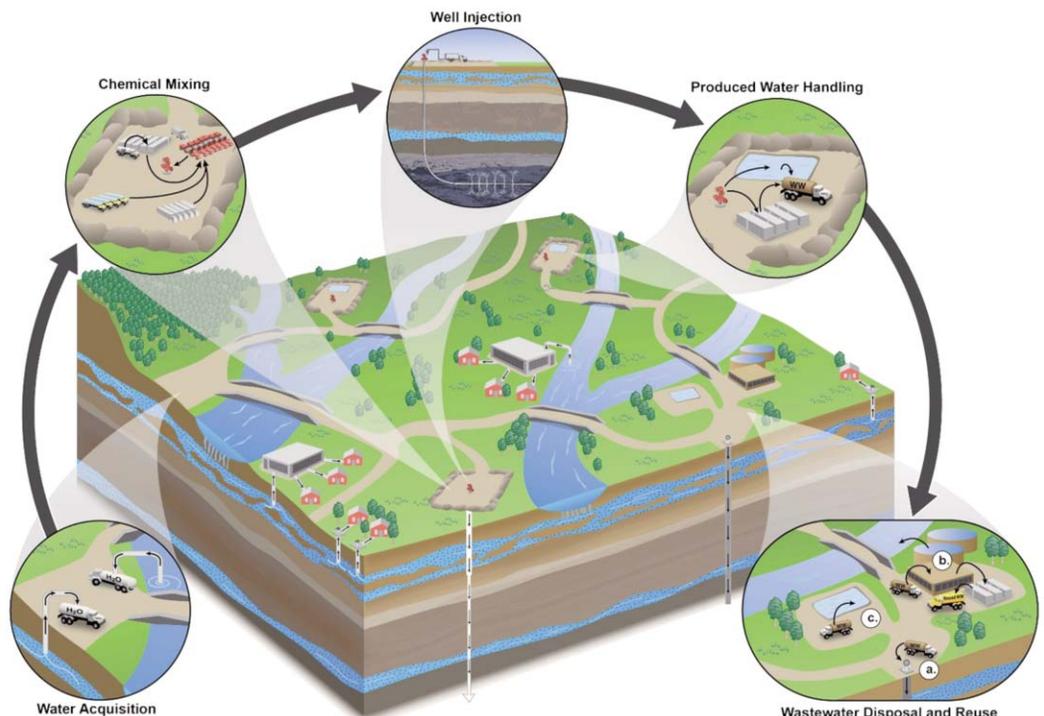
“The EPA report goes out of its way to blur the lines as well by lumping it all into ‘activities in the hydraulic fracturing water cycle.’ By doing this, if a guy driving a truck filled with fracking chemicals has a wreck, it's a ‘fracking issue.’”

The fact that EPA has indeed expanded the definition of fracking for the purposes of its report (more on the reasons why in a bit) has been widely underreported. Also underreported is the fact that EPA studied groundwater **and** surface water impacts in its final report, and also expanded the definition of drinking water, as *Bloomberg* notes:

“For decades, the agency has defined ‘drinking water resources’ as any water with total dissolved solids below 10,000 milligrams per liter, on the assumption that such water could someday be cleaned up enough to be drinkable. U.S. water utilities typically restrict drinking water to less than 500 mg/L total dissolved solids.

“A drinking water resource, by EPA definition, could be too deep, too small or trapped in rock too solid to make recovery practical, in addition to being too saline for water utility standards.”

In other words, for the purposes of this report, EPA considers just about any water source a potential “drinking water”



source—even if it contains twice the amount of dissolved solids as water considered potable by U.S. water utilities. From the report’s executive summary:

“Consistent with the Study Plan (U.S. EPA, 2011d), drinking water resources are defined within this assessment as any groundwater or surface water that now serves, or in the future could serve, as a source of drinking water for public or private use. This definition is broader than most regulatory definitions of ‘drinking water’ to include both fresh and non-fresh bodies of water that are and could be used now or could be used in the future as sources of drinking water (Chapter 2).”

It is for this reason that EPA claims it identified injection of fracking fluids into “drinking water” as an example of a “water impact” from fracking, including examples in such western states as Wyoming (Wind River Basin), California (Kern County), Colorado (Raton Basin) and New Mexico (San Juan Basin). Each example is very misleading due to the fact the water tables impacted are not actually used for drinking water and are only considered drinking water aquifers by EPA’s admittedly drastically expanded definition.

Even so, EPA offers no claim of drinking water contamination (because they aren’t actual drinking water aquifers) and notes that fracking is rarely conducted in such formations:

“This analysis, in conjunction with the result from the Well File Review, suggests that the overall frequency of this occurrence is relatively low, but is concentrated in particular areas of the country.”

EPA also broadens the definition of “impacts” for the purposes of this report, explaining that the term “impacts” should not necessarily be equated to contamination (which, of course, it has been):

“We define impacts broadly in this assessment to include any change in the quantity or quality of drinking water resources.”

So to sum up, EPA expands the definition of the term fracking, drinking water and impacts for the purposes of its report.

And it still found no evidence of widespread impacts.

This might have been a bigger story had the agency not steered the media toward its desired narrative by claiming “data” gaps prevented it from revealing the smoking gun activists have been hoping for.

Fact #2: Rare instances of groundwater impacts still not due to the fracking process.

As *E&E News* recently noted, EPA also expanded the definition of fracking to include components that it **already knew** had impacted water:

“There are few, if any, examples of the specific practice of hydraulic fracturing fluid rising through rock to contaminate groundwater. But by broadening its examination to include hydraulic fracturing ‘activities’ and the full ‘water cycle’ of fracking, EPA ventured into areas where water contamination is already a widely acknowledged concern.”

But bottom line, as *E&E* noted, “there are few, **if any** examples” of fracking fluid rising through fractures at depth into water tables, and the EPA findings did not change that fact. Several excerpts from the final report illustrate exactly why this

is the case.

EPA notes that the possibility of fluids rising through fractures into water tables during the hydraulic fracturing process is remote:

“(D)ue to the very low permeabilities of shale formations; this means that hydraulic fracturing operations are unlikely to generate sufficient pressure to drive fluids into shallow drinking water zones.”

EPA notes the possibility of fluids rising through fractures into water tables is even more unlikely following fracking operations:

“In deep, low-permeability shale and tight gas settings and where induced fractures are contained within the production zone, flow through the production formation has generally been considered an **unlikely pathway** for migration into drinking water resources (Jackson et al., 2013d).”

“Some natural conditions could also create an upward hydraulic gradient in the absence of any effects from hydraulic fracturing. However, these natural mechanisms have been found to cause very low flow rates over very long distances, yielding **extremely small vertical fluxes** in sedimentary basins. These translate to some estimated travel times of 100,000 to 100,000,000 years across a 328 ft (100 m) thick layer with about 0.01 nD (1 . 10⁻²³ m²) permeability (Flewelling and Sharma, 2014).”

Fact #3: Incidence of groundwater being impacted by development activities were still “small.”

The EPA draft concluded that, even taking into account all five steps of the hydraulic fracturing “water cycle” that the number of identified water impacts **“was small compared to the number of hydraulically fractured wells.”**

That language was removed from the final report, but as covered earlier, comments made to the media by a top EPA official reveal that this is still the agency’s final conclusion. In addition to his comments to CBS, Burke admitted to the *Wall Street Journal* that the documented number of cases of water contamination from fracking-related activities is indeed small. From the *Wall Street Journal*:

“When asked, **Mr. Burke did reiterate the report’s earlier findings that the EPA found only a small number of cases of contamination** but stressed the lack of data,

“While the number of identified cases of drinking water contamination is **small**, the scientific evidence is insufficient to support estimates of the frequency of contamination,” Burke told the *Wall Street Journal*. “Scientists involved with finalizing the assessment specifically identified this uncertainty in the report.” (*emphasis added*)

Fact #4: Still directly contradicts oft-cited Ingraffea, Dusseault and Muehlenbachs well casing studies.

As stated earlier, the well injection chapter of the report focuses largely on well casing issues that are in no way exclusive to fracking, as all wells can have casing issues whether they’re fracked or not.

And the report directly takes a long look at studies by well-

known shale critics Anthony Ingraffea, Maurice Dusseault and Karlis Muehlenbachs and concludes that these researchers' contentions that well integrity is a widespread issue is drastically overblown:

"We identified two cases where hydraulic fracturing activities affected the quality of drinking water resources due to well construction issues, including inadequate cement or ruptured casing."

EPA's finding of just two instances of well casing issues caused by hydraulic fracturing activities leading to water impacts shows just how rare such instances are, considering the report finds more than 300,000 wells have been fracked in the U.S. since 2000. Rates of wells actually leaking into the outside environment are a mere fraction of one percent of all wells drilled across the United States. For example, the EPA report references two other studies that found catastrophic failure rates of just 0.06 percent.

Just as a refresher, Ingraffea is known for claiming that half of all shale wells "fail," a conclusion to which he arrived by using data from what he called "industry documents" contained in another report that EPA also cites as "a study of wells in the Gulf of Mexico (Brufatto et al., 2003)." This claim of high failure rates for well-casings was also made Muehlenbachs, who said, "The biggest problem is that half or more the [shale] wells drilled leak due to improper cement jobs or industry is not following best practices" based on that same Brufatto et al study. Both Ingraffea and Muehlenbachs used Dusseault's 2000 paper to back up their claims.

Fact #5: Still contradicts Duke water contamination studies.

The EPA's draft report makes reference to several studies that found thermogenic methane in drinking water resources and (sort of) blamed fracking. But EPA made it clear in its draft report that the mere presence of thermogenic methane in water wells does not mean it came from shale formations or is related to development, stating that the "pathways of migration are generally not apparent" in each study.

And EPA's final report also emphasizes that thermogenic methane can naturally exist in well water:

"The origin of methane in groundwater can be either thermogenic (produced by high temperatures and pressures in deeper formations, such as the gas found in the Marcellus Shale) or biogenic (produced in shallower formations by bacterial activity in anaerobic conditions).

"Gas occurrence is linked to local and regional geologic characteristics. **In some cases, thermogenic methane occurs naturally in shallow formations because the formation itself was uplifted (relative to the surface) over geologic time.**"

Fact #6: EPA still debunks activists' water usage claims.

The EPA's draft report completely refuted anti-fracking groups' oft-repeated claim that shale development is rapidly depleting water resources, finding fracturing technology only accounts for a small percentage of overall water use. From the report:

"Cumulatively, hydraulic fracturing uses and consumes billions of gallons of water each year in the

United States, but at the national or state scale, **it is a relatively small user (and consumer) of water compared to total water use and consumption.**"

(emphasis added)

EPA's final report echoed the draft report's findings:

"Hydraulic fracturing generally uses and consumes a **relatively small percentage of water when compared to total water use**, water consumption, and water availability at the national, state, and county scale."

EID has previously noted that fracking accounted for just 0.3 percent of total U.S. freshwater consumption in 2011 and that the city of New York consumes as much water every six minutes as is used in the average hydraulic fracturing job. EPA's final report further confirms that activists' claims regarding water use for fracking are greatly exaggerated:

"In most counties studied, the average annual water volumes reported in FracFocus 1.0 were generally less than 1% of total water use. This suggests that hydraulic fracturing operations represented a **relatively small user of water** in most counties."

"With notable exceptions, hydraulic fracturing uses a relatively small percentage of water when compared to total water use and availability at large geographic scales."

Fact #7: Still no documented impacts to groundwater from spillage of fracturing fluids.

EPA's draft report looked at 497 spill reports from the fracking fluid chemical mixing process—which occurs when the fracturing crew prepares the water-based solution for delivery into the formation and found "no documented impacts to groundwater" from those spills.

The final report also found, "Spill reports have not documented impacts on groundwater related to the chemical mixing stage."

The final report also found that the median spill rate is just 2.6 per every 100 wells and provided proper context regarding fracking fluid concentrations:

"Once chemicals are mixed with the base fluid to form the hydraulic fracturing fluid, the chemical is diluted to much lower concentrations, which has the potential for a less severe impact."

The report also estimates that between 2,300 and 6,500 gallons of fracking fluid additives are stored on site in their pure form, although some are not at 100 percent concentrations. Activists often point to the lack of toxicity information regarding these chemicals, but the EPA's final report notes:

"This lack of toxicity values is not unique to the hydraulic fracturing industry; in fact, it has been estimated that there are **tens of thousands of chemicals** in commercial use that have not undergone significant toxicological evaluation."

Fact #8: EPA still says that literally tens of millions of Americans reside in proximity to hydraulically fractured wells—and concludes that they are safe.

EPA's removal of its original determination of "no widespread, systemic" impacts from fracking is all-the-more confounding considering both its draft and final reports illustrate just

how widespread hydraulic fracturing is in the U.S.

EPA notes that of the approximately 275,000 wells that were hydraulically fractured in 25 different states between 2000 and 2013, eight percent of those wells were within one mile of a public water system (PWS).

Considering 86 percent of the U.S. population gets its water from a PWS, EPA estimates **8.6 million people** get their water from a source a mile or less from a fracked well. Obviously, one would have to surmise that if there were widespread problems, it would be evident considering 8.6 million people in 25 states would be affected! But EPA's final report claims "significant data gaps preclude it from making any definitive determinations regarding fracking's safety."

EPA also notes that another "3.6 million people live in counties with at least one hydraulically fractured well and where at least 30% of the population relies on non-PWSs (well water) for drinking water."

So all told, more than 10 million people rely on water sources located a mile or less from a fracked well.

But in six years, EPA found no evidence of systemic impacts linked to its broad definition of fracking. This prompted the *Washington Post* editorial board to note that, regardless of how the EPA spun their final report to the media, the data in its final report clearly shows that fracking is not an inherent threat to drinking water and that the millions of people who rely on water sources in close proximity to shale development are safe:

"(T)he agency also noted, the number of fracked wells in the country has been astonishingly high in recent years, and there is only sparse and isolated evidence of real harm..."

Fact #9: Anti-fracking activists claim of "industry influence" still debunked.

If anything, the EPA's decision to remove phrase "no widespread, systemic impacts" from its final report and claim that "data gaps" kept the agency from coming to a decisive verdict (despite 4,100 applicable scientific references, six years and \$33 million in taxpayer dollars) shows EPA was did environmentalists' bidding instead.

There is not only evidence that environmentalists groups pressured EPA to broaden the scope of its study to encompass a very broad definition of fracking—but that EPA did so unilaterally despite clear orders from Congress not to do so.

As a meeting summary from 2010 between EPA and environmental groups explains, anti-fracking groups "expressed concern that the study will not include all aspects of the HF and natural gas extraction process. EPA will use a lifecycle framework to organize the study. While a complete mass balance will most likely be beyond the scope of the study, EPA is currently planning to consider all stages of HF activities, including initial water withdrawals and waste storage and disposal."

A recent Senate Environment and Public Works Committee (EPW) report explains, despite a clear indication from Congress that the report be focused on the fracturing process itself, EPA forged ahead with a plan to widen the scope to include all parts of the oil and gas development process.

The Senate EPW Committee report points to an email from an EPA official and member of the hydraulic fracturing study steering committee, which reveals that as of March 11, 2010:

"[The official] was successful (at least for now) in

getting the most expansive scope definition. Still limited to drinking water, but would include the draw-downs of fresh water (surface, ground or utility supplied) used to make-up the frac fluids (2 to 7 million gallons a frac event), the fracturing process itself, and waste management issues like produced water handling, spills, waste pits that might impact surface or ground water sources."

Clearly, EPA was pushed to expand the scope of its study on several fronts, therefore increasing the odds that it would come up with something the anti-fracking movement could trumpet as "proof" of a significant threat to drinking water.

And despite this fact, EPA still couldn't find any substantive evidence to support this seemingly predetermined outcome. That is because the science is clear: peer-reviewed studies have consistently found little if anything to substantiate the idea that fracking can contaminate groundwater.

Fact #10: This is still the most comprehensive study on hydraulic fracturing to date.

Last year, EPA characterized its draft report as the "most complete compilation of scientific data to date." Flash forward a little more than the year, and EPA completely changed its tune, saying:

"Data gaps and uncertainties limited EPA's ability to fully assess the potential impacts on drinking water resources locally and nationally. Because of these data gaps and uncertainties, it was not possible to fully characterize the severity of impacts, nor was it possible to calculate or estimate the national frequency of impacts on drinking water resources from activities in the hydraulic fracturing water cycle."

EPA's claim of data gaps and uncertainties is ridiculous. EPA spent six years and at least \$33 million in taxpayer dollars on this study. It identified 4,100 scientific data sources and scientific studies applicable to this topic. That is why the agency's original characterization of the report as the "most complete compilation of scientific data to date" was spot on. And nothing in the final version of the report has changed that fact.

Conclusion

Fortunately a handful of media outlets, including *Bloomberg BNA*, *Forbes* and *The Daily Caller*, correctly reported what the above list confirms: Not only has EPA not reversed course—the agency is effectively punting after a six-year long drive to prove the anti-fracking movement's favorite talking point stalled deep in its own territory.

If fracking truly were an inherent risk to drinking water, EPA would have been able to produce much more than the list of hypothetical contamination scenarios and anecdotal accounts of impacts that this report provides. And by playing the "data gaps" card, the agency was able to quietly exit stage left while still generating the headlines activists desired despite no actual proof to support them.

But bottom line, EPA's final determination that fracking-related activities "can impact drinking water resources under some circumstances" is no different than its original determination of "no widespread, systemic impacts." ■

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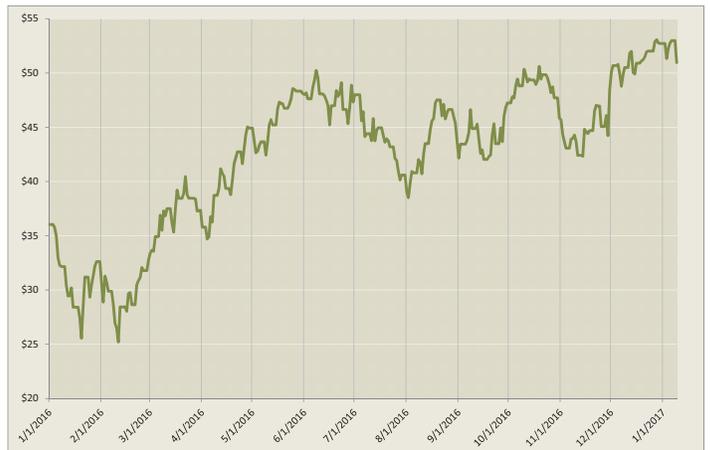
Ergon Oil Purchasing: www.ergon.com/prices.php

Gas futures: quotes.ino.com/exchanges/?r=NYMEX_NG

Baker Hughes rig count: phx.corporate-ir.net/phoenix.zhtml?c=79687&p=irol-reports&other

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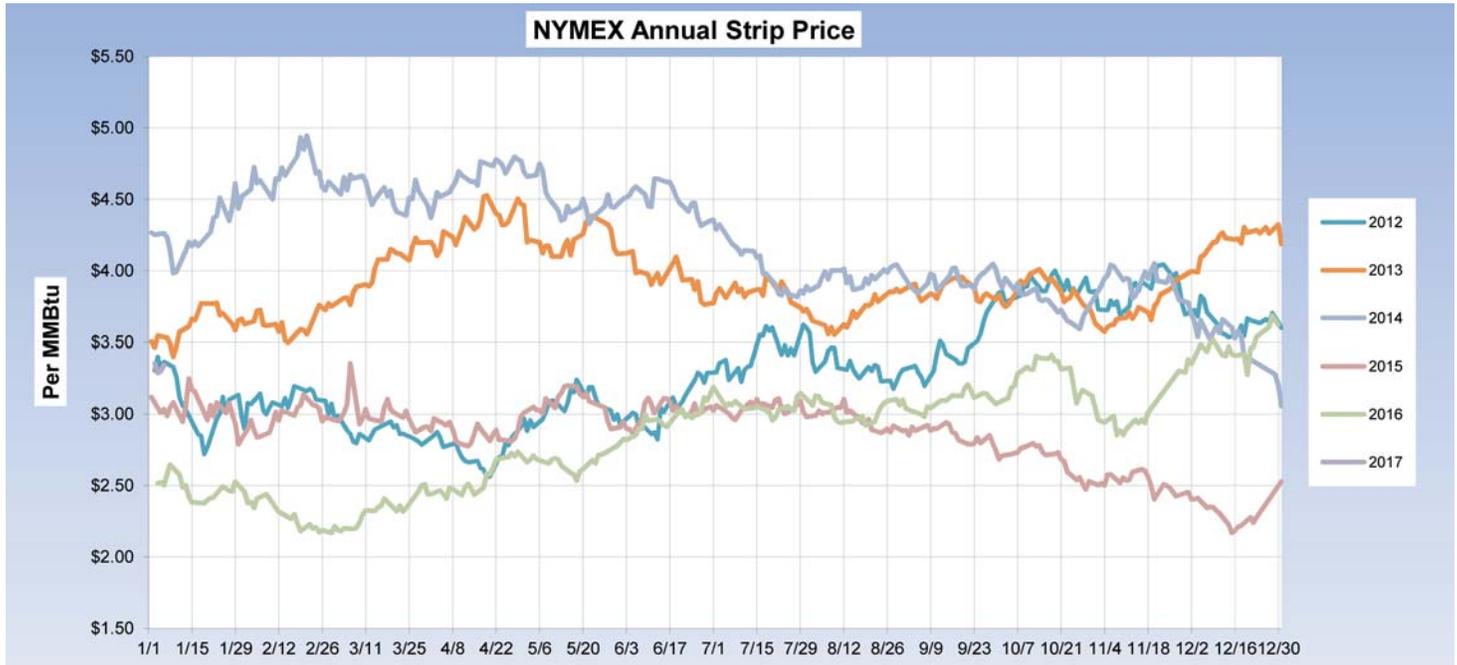


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Month	Price
February 2017	\$3.122
March	3.133
April	3.118
May	3.121
June	3.153
July	3.191
August	3.201
September	3.187
October	3.204
November	3.248
December	3.368
January 2018	3.459

Prices as of January 9

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COLLABORATIVE ENGINEERING

Spud Report: December



The data show below comes from the Department of Environmental Protection. A variety of interactive reports are

OPERATOR	WELLS	SPUD	API #	COUNTY	MUNICIPALITY
Branch John D	1	12/7/16	123-47972	Warren	Conewango Twp
Cabot Oil & Gas Corp	9	12/4/16	115-22152*	Susquehanna	Gibson Twp
		12/4/16	115-22153*	Susquehanna	Gibson Twp
		12/4/16	115-22154*	Susquehanna	Gibson Twp
		12/4/16	115-22155*	Susquehanna	Gibson Twp
		12/4/16	115-22156*	Susquehanna	Gibson Twp
		12/4/16	115-22157*	Susquehanna	Gibson Twp
		12/4/16	115-22158*	Susquehanna	Gibson Twp
		12/4/16	115-22159*	Susquehanna	Gibson Twp
		12/4/16	115-22160*	Susquehanna	Gibson Twp
Cameron Energy Co Chief Oil & Gas LLC	1	12/7/16	123-47977	Warren	Sheffield Twp
	2	12/22/16	015-23283*	Bradford	Albany Twp
EQT Production Co	18	12/26/16	003-22381*	Allegheny	Forward Twp
		12/26/16	003-22382*	Allegheny	Forward Twp
		12/21/16	059-26844*	Greene	Center Twp
		12/27/16	117-21781*	Tioga	Duncan Twp
		12/27/16	117-21782*	Tioga	Duncan Twp
		12/27/16	117-21783*	Tioga	Duncan Twp
		12/27/16	117-21784*	Tioga	Duncan Twp
		12/27/16	117-21785*	Tioga	Duncan Twp
		12/1/16	125-27821*	Washington	Carroll Twp
		12/3/16	125-27723*	Washington	Carroll Twp
		12/15/16	125-28074*	Washington	Carroll Twp
		12/15/16	125-28075*	Washington	Carroll Twp
		12/5/16	125-28092*	Washington	Nottingham Twp
		12/5/16	125-27799*	Washington	Nottingham Twp
		12/20/16	125-28118*	Washington	Nottingham Twp
		12/20/16	125-28114*	Washington	Nottingham Twp
	Gas & Oil Mgmt Assoc Inc	2	12/8/16	123-47971	Warren

available at www.dep.pa.gov/DataandTools/Reports/Oil and Gas Reports/Pages.

The table is sorted by operator and lists the total wells reported as drilled last month. **Spud** is the date drilling began at a well site. The **API number** is the drilling permit number issued to the well operator. An asterisk (*) after the API number indicates an unconventional well.

OPERATOR	WELLS	SPUD	API #	COUNTY	MUNICIPALITY
PennEnergy Resources LLC	4	12/23/16	123-47970	Warren	Pleasant Twp
		12/1/16	007-20492*	Beaver	New Sewickley
		12/1/16	007-20493*	Beaver	New Sewickley
		12/30/16	019-22592*	Butler	Clearfield Twp
Range Resources Appalachia	10	12/31/16	019-22590*	Butler	Clearfield Twp
		12/13/16	125-28078*	Washington	Donegal Twp
		12/13/16	125-28079*	Washington	Donegal Twp
		12/13/16	125-28080*	Washington	Donegal Twp
		12/13/16	125-28081*	Washington	Donegal Twp
		12/30/16	125-28104*	Washington	Mt Pleasant Twp
		12/30/16	125-28103*	Washington	Mt Pleasant Twp
		12/30/16	125-28109*	Washington	Mt Pleasant Twp
		12/30/16	125-28111*	Washington	Mt Pleasant Twp
		12/30/16	125-28106*	Washington	Mt Pleasant Twp
RE Gas Dev LLC	2	12/28/16	019-22586*	Butler	Oakland Twp
		12/28/16	019-22587*	Butler	Oakland Twp
SWEPI LP	8	12/2/16	117-21883*	Tioga	Delmar Twp
		12/3/16	117-21879*	Tioga	Delmar Twp
		12/3/16	117-21881*	Tioga	Delmar Twp
		12/4/16	117-21878*	Tioga	Delmar Twp
		12/4/16	117-21885*	Tioga	Delmar Twp
		12/5/16	117-21880*	Tioga	Delmar Twp
		12/5/16	117-21884*	Tioga	Delmar Twp
		12/6/16	117-21882*	Tioga	Delmar Twp
SWN Production Co LLC	2	12/15/16	117-21874*	Tioga	Liberty Twp
		12/1/16	131-20533*	Wyoming	Forkston Twp
Vantage Energy Appalachia LLC	4	12/8/16	059-27080*	Greene	Jefferson Twp
		12/8/16	059-27077*	Greene	Jefferson Twp
		12/8/16	059-27078*	Greene	Jefferson Twp
		12/8/16	059-27079*	Greene	Jefferson Twp
XTO Energy Inc	2	12/22/16	019-22562*	Butler	Franklin Twp
		12/22/16	019-22564*	Butler	Franklin Twp

	December	November	October	September	August	July
Total wells	65	63	64	70	66	57
Unconventional	60	56	59	49	48	49
Conventional	5	7	5	21	18	9
Gas	61	57	59	50	48	49
Oil	4	6	5	20	18	9



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June 5, Wanango Golf Club, Reno

Pig Roast, Product & Equipment Roundup and Technical Conference

June 28-29, Seven Springs Mountain Resort, Champion

20th Annual Divot Diggers Golf Outing

August 24, Tam O'Shanter Golf Club, Hermitage

Industry events

IOGAWV Winter Meeting

February 14-15, Charleston (WV) Marriott

Info: iogawv.com/2017-winter-meeting-registration

IPAA Congressional Call-Up

March 6-8, Washington, DC

Info: www.ipaa.org/meetings-events

OOGA Winter Meeting

March 8-10, Hilton Columbus at Easton, Columbus, OH

Info: oogawintermeeting.com

7th Annual Cost-Effective Produced Water Management Marcellus & Utica 2017

March 29-30, Pittsburgh, PA

Info: www.shale-water-marcellus-utica.com. PIOGA members receive 15% discount using code PIOGA15 by January 20

IPAA Midyear Meeting

June 21-23, The Ritz-Carlton, Laguna Niguel, CA

Info: www.ipaa.org/meetings-events

IOGANY Summer Meeting

July 12-13, Peak'n Peak Resort, Clymer, NY

Info: www.iogany.org/events

IOGA West Virginia Summer Meeting

August 6-8, The Greenbrier, White Sulphur Springs, WV

Info: iogawv.com/

Ohio Oil & Gas Association Summer Meeting

August 7-8, Zanesville (OH) Country Club

Info: www.ooga.org

IPAA Annual Meeting

November 8-10, The Ritz-Carlton, Naples, FL

Info: www.ipaa.org/meetings-events

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