



The PIOGA press

The monthly newsletter of the Pennsylvania Independent Oil & Gas Association

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Amendments added to House severance tax bill

Legislation imposing a severance tax on unconventional natural gas production remained before the full House of Representatives through early December as the chamber worked its way through approximately 400 amendments, approving seven changes as of this writing and voting down an attempt to send the bill back to committee.

House Bill 1401 creates a volumetric tax that ranges from 2 cents to 3.5 cents per Mcf, depending on the annual average NYMEX price of natural gas. The Act 13 impact tax on unconventional wells would remain in effect as well. Those provisions mirror a tax passed by the Senate in late July as part of a budget revenue package.

HB 1401 also includes language that would prohibit operators from apportioning post-production expenses as part of royalty payments. The prohibition would apply both to existing and future oil and gas leases, something that many legal experts had said would be unconstitutional when a standalone version was up for consideration in 2016.

As we reported in last month's issue, the House Finance Committee on October 18 amended HB 1401—stripping out a 3.2-percent severance tax proposed by Representative Gene DiGirolamo (R-Bucks) and inserting the Senate's tax language—and sent it on to the full House by a vote of 16-9. No further action occurred until just before Thanksgiving, when House members began debating nearly 400 proposed amendments to the bill, with 23 coming up for a vote in a two-day flurry of activity. Seven of those amendments were adopted:

- A technical change moving the legislation under the Oil and Gas Title of the Pennsylvania Consolidated Statutes.
- Operators would be allowed to move a bore hole within a 50-foot perimeter of the originally permitted location without obtaining a new drilling permit.
- The Department of Environmental Protection would be required to act on a drilling permit within 45 calendar days or the permit would be deemed approved. The deadline would be stretched to 60 days if the review period is extended for cause. Similar provisions would apply to general air quality permits (30

days) and earth-disturbance permits (53 business days or 24 business days for an expedited application).

• Unconventional well permit fees would remain at \$4,200 for a conventional well and \$5,000 for a non-vertical well.

• Any amount of the tax generated in excess of \$150 million would be split between the two state pension funds in a dedicated stream to help pay off the \$70 billion combined unfunded liability.

• A well operator who affects a public or private water supply by pollution or diminution would be required to restore or replace the affected supply in a quantity and quality adequate for the purposes served by the original supply. The amendment also provides DEP the ability to investigate and enforce the provisions in the amendment and requires the department to maintain a publicly accessible database of polluted water supplies.

• An initial well permit would be allowed to expire within one year of issuance unless drilling operations commence or such operations are pursued with due diligence within the period. Should drilling commence within that one-year period, the permit shall remain in effect until the well is plugged or the permit is otherwise revoked.

When the House returned from its Thanksgiving break on December 4, two other attempts to amend HB 1401 failed, including one to name the severance tax after Governor Tom Wolf and supporting legislators. Also voted down was a proposal to refer the bill to the House Environmental Resources and Energy Committee.

"This bill is not ready for actual consideration before this House; there is more work to be done," said House Majority Leader Dave Reed. "If there are 400 amendments filed—400 legitimate concerns—and the leading environmental groups have concerns and ask for the bill to be opposed, the bill should go back to committee. The making of this public policy is difficult, there are so many inter-woven policies included in this particular topic...those topics each deserve to be vetted, they deserve to be done correctly."

However, supporters of the bill contended that the move most likely would bottle up the legislation so that it would never again reach the floor. The move to send HB 1401 committee failed by a 94-93 vote.

It's uncertain when or if further action will occur to HB 1401, but PIOGA will continue to vigorously oppose passage of this any other new tax burdens aimed at our industry. Watch your email or check our website for updates. ■

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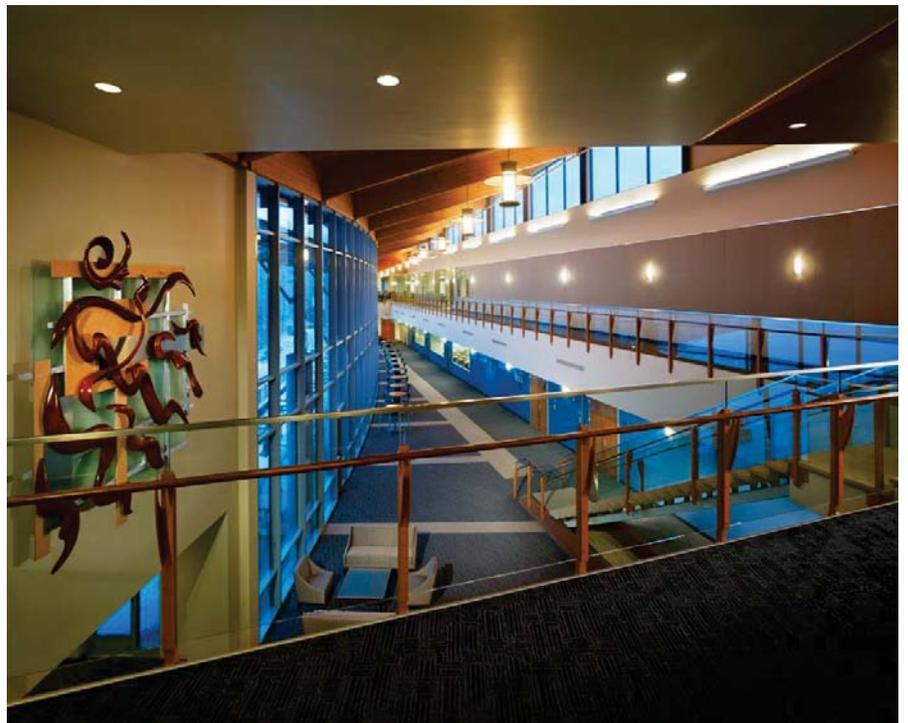
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Message
to the
Membership

Make the most of your PIOGA dues

I want to thank you in advance for renewing your PIOGA membership for 2018. We understand that although industry activity is finally picking up again, you still must carefully weigh every dollar spent. That's why I'd like to take a few minutes letting you know how we have been working on your behalf this past year and how you can get the greatest value from your PIOGA dues going forward.

■ Government Relations: Severance Tax, One Call and GP-5/5A

While PIOGA's government relations firm has been tracking and advising us on more than 100 pieces of high-priority legislation, three issues have received most of our attention – renewed attempts to impose a natural gas severance tax, reauthorization of the PA One Call law, and legislative hearings on the Department of Environmental Protection's proposed GP-5 and 5A emissions permits.

PIOGA and its allies have been fighting industry-killing, shortsighted severance tax proposals for several years now. Governor Wolf made the tax a centerpiece of his election campaign and is more determined than ever to see it happen as he runs for reelection in 2018. More than a dozen severance tax bills have been introduced in the current session of the General Assembly. In July, the Senate passed a budget revenue package that included a tax on unconventional natural gas production as high as 3.5 cents/Mcf. And then in October, the House Finance Committee approved House Bill 1401, which mirrors the tax provisions of the Senate proposal. Finalization of the state budget has taken some of the pressure off moving this bill, but we continue to work hard to defeat this misguided tax proposal.

Another ongoing battle has involved attempts to end the exclusion of conventional production and gathering lines from mandatory participation in PA One Call and reforming the way PA One Call charges for its services. Many of PIOGA's conventional producers have objected to the exorbitant costs of participating in One Call, so we have fought to retain their exclusion. While we were successful in retaining the exclusion for most pipelines operated by the conventional industry in Act No. 50 of 2017 reauthorizing the PA One Call law and in creating two seats for the oil and gas industry on the PA One Call's Board of Directors through which we expect to have a say to address cost concerns, time ran out on our legislative reform effort. But we have assurances from legislators that our reform concerns will be addressed next year.

We continue to work with a diverse coalition for a legislative remedy for DEP's proposed GP-5 and GP-5A.

Legal Issues – On the legal front, PIOGA and member company Snyder Brothers, Inc. won a significant victory in 2017 when the Commonwealth Court ruled in our favor in a case challenging the Public Utility Commission's treatment of unconventional stripper wells with regard to the Act 13 impact fee. The PUC is appealing the decision to the Pennsylvania Supreme Court, but we are confident of prevailing. This is just one of a number of legal issues we are involved with or closely tracking.

■ Natural Gas Market Development: "More Burner Tips"

The chairman of PIOGA's Pipeline and Gas Market Development (PGMD) Committee likes to say the group is all about finding more burner tips for our abundant natural gas resources. It's also on a mission to grow the organization. The group, assisted by Director of Natural Gas Development Joyce Turkaly, is looking downstream to accomplish those two goals. The committee focuses on issues related to natural gas use in generating electricity, alternative-fueled vehicles and their infrastructure, industrial and other large-volume users, and public relations. Attend the committee's meetings and you'll frequently hear from the same quality of guest presenters that you'd expect at a large conference costing hundreds of dollars (or more!). Promoting new and expanded uses for natural gas takes Turkaly and PGMD members to many varied places —conferences, visits to facilities, contacts with state and federal agencies, and public meetings in support of infrastructure expansion and projects like Shell's petrochemical plant in Beaver County. The committee also has been responsible for recruiting the majority of our new members in 2017, most from the downstream segment, which will help open opportunities for all of us.

■ PIOGA Committees: Expertise at Work

As I mentioned at our Annual Membership Meeting in October, one of the things that makes PIOGA a strong and effective organization is our committees and the ability of members who are normally competitors to collaborate with one another toward common goals benefitting our industry. Environmental Committee Cochairman Paul Hart emphasized that the expertise of his committee members is the envy of other trade associations. Here are some of the many things our other committees have been addressing:

Environmental Committee – This highly involved committee tackles the tough issues that have a huge impact on the day-to-day operations of our industry. The four subcommittees — Erosion & Sedimentation, Waterways and Endangered Species; Air

Quality/Emissions; Water, Waste Management and Recycling; and Well Construction —are addressing such matters as the Department of Environmental Protection's potentially crippling GP-5/5A permits, disposal wells and other wastewater options, well plugging, new DEP regulations and *much* more.

Safety Committee – Safety is at the core of everything our industry does, and a primary focus of this committee is sharing — sharing lessons learned in the wake of incidents and near-misses, sharing best practices, and sharing information about changes to safety-oriented laws and regulations. The group also organized technical training as part of the PIOGATech Series (more on that below).

Tax Committee – The work of this committee has the potential to save your company a considerable amount in what you pay to the government each year. Most recently, it identified and alerted members to a federal Marginal Well Credit that because of a combination of product prices, inflation and IRS calculations will be very significant to many of our conventional producers. The committee also organizes an annual seminar to bring members the latest information on oil and gas tax and accounting matters.

Legislative Committee – This committee reviews, provides input, and helps develop PIOGA's position and strategy on legislation of concern to the industry. During the past year, the group has addressed such legislation as the severance tax, PA One Call, landowner rights and many other important matters. We value their time and involvement.

■ Keeping You Informed and Engaged

Giving our members opportunities to stay informed and engaged is another of our key missions. We host a pair of conferences each year – for 2018 that will be our Spring Meeting on March 21 at Rivers Casino in Pittsburgh and the Fall Oktoberfest and Annual Meeting on October 17-18 at Seven Springs Mountain Resort. These events bring together speakers who are acknowledged experts in their fields to discuss everything from market trends to effective leadership. Did I mention our registration fees are only about one-third that of many other conferences, with just as high a quality of speakers? Be sure to watch your email or check the PIOGA Events section of our website to learn what's coming up.

Along with these big events, the Environmental and Safety committees have been spearheading the PIOGA Technical Training Series, or PIOGATech. These small, targeted trainings in 2017 covered air emissions compliance, endangered species, water and waste issues, aboveground storage tanks, respirable silica, root cause accident analysis and compliance risk management. Members have found the PIOGATech sessions to be very valuable, and we're planning more for 2018.

Another addition to our programming lineup is our PIOGA Women's Energy Roundtables (or PoWER), with two events held in 2017 and more planned for the coming year. To help members engage with other members in a fun setting, we offer a variety of networking events such as golf outings, sporting clay shoots, wine-tasting mixers, cigar dinners and more. Again, watch your email or check the website.

Speaking of keeping you informed, don't forget the eWeekly newsletter you receive in your inbox every Monday and our monthly *PIOGA Press*. Also, our annual hard-copy membership directory, the searchable directory features of our Members Only system and our online Buyers' Guide are excellent tools for connecting with other members and new customers.

■ Making Your Dues Go Further

There are a number of ways that you can make your membership a better value for your company. First and foremost is having you or your staff contribute their time and expertise to our committees. Head over to the Members Only area of our website (look for the link at the top of our homepage, www.pioga.org) to find out more about what each committee does and how to join.

If you attend our events or advertise in the eWeekly or *PIOGA Press*, you'll enjoy a significant member discount. We've heard from some members that these savings have nearly repaid the cost of their dues! We're also going to be launching an incentive program for bringing in new members, which can earn you dollar credits you can "spend" toward attending events, advertising or sponsorships.

We value your opinion! Not only do we look forward to having you continue as a member, but we also want to hear from you. What are we doing right? What could we do better? What should we be addressing that we aren't currently? Feel free to let me know your thoughts at dan@pioga.org or 724-933-7306 ext. 30.

Best regards,



Dan Weaver
President & Executive Director



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PIOGA traditionally has offered sponsorship opportunities throughout the year as events approach. However, we've heard from a number of members who would prefer a more inclusive, budget friendly, get-it-all-done-at-once approach to sponsoring.

With that in mind, we are launching the 2018 PIOGA Partners program. The seven levels of sponsorship—from the \$10,000 Centennial Partner recognizing our 100 years of working for Pennsylvania's oil and gas industry to the \$1,500 Driller Level—quite literally offer something for everyone's budget. There are also some new types of sponsorships as well.

We hope you will consider signing on to be a PIOGA Partner as a way of supporting the work of your association. Of course, we will also continue to offer event-by-event sponsorships throughout 2018 as well.

Centennial Partner—\$10,000. Your company's logo will be recognized as an official PIOGA partner at all events, in *The PIOGA Press*, PIOGA eWeekly and on the rotating slides on www.pioga.org homepage. You also receive two tickets to all PIOGA events (Spring Meeting, PIOGATechs, networking events, golf outings, sporting clay outings and the fall meeting). In addition, you will be eligible to submit an article highlighting your company in *The PIOGA Press* and also receive a 30 percent discount off normal advertising rates in *The PIOGA Press* and eWeekly for up to one year. Over 10,000 monthly impressions.

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Golf Partner—\$4,000. Your company's logo will be recognized as an official PIOGA partner at events, in *The PIOGA Press* and the PIOGA eWeekly. You may also register four golfers at all three PIOGA golf events (Ted Cranmer Memorial, Divot Diggers and fall outing) and receive a tee & green sign at each of these events. Up to 6,000 monthly impressions.

Committee Partner—\$3,000. Your company's logo will be recognized as an official PIOGA partner at committee meetings, in *The PIOGA Press*, PIOGA eWeekly and all PIOGA-initiated committee correspondence. Up to 6,250-7,500 monthly impressions.

Engineer Level—\$2,500. Your company's logo will be recognized as an official PIOGA partner at the spring and fall meetings, in *The PIOGA Press* and PIOGA eWeekly. Over 5,000 monthly impressions.

Driller Level—\$1,500. Your company's logo will be recognized as an official PIOGA partner at the spring and fall meetings and in *The PIOGA Press*. Over 2,000 monthly impressions.

To become a Partner or for more information, please contact Debbie Oyler at debbie@pioga.org or 724-933-7306 ext. 22.

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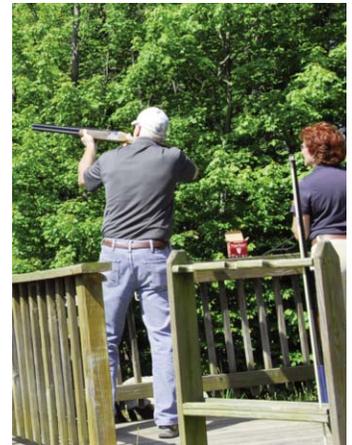
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DEP releases draft-final GP5/5-A methane permits

The Pennsylvania Department of Environmental Protection has released details of two draft-final general permits known as GP-5 and GP-5A that address methane emissions and other air pollutants from unconventional well sites and from midstream and natural gas transmission facilities.

DEP proposed GP-5 and 5A in early 2017 and received more than 10,000 comments on the proposed general permits. PIOGA, members of the legislature and others have been highly critical not only of the onerous requirements in the permits, but also of the way in which the department circumvented the formal rule-making process.

The draft-final GPs, along with changes to the Exemption 38 compliance demonstration, will be presented to the Air Quality Technical Advisory Committee (AQTAC) on December 14 and finalized in the first quarter of 2018 after stakeholder review.

PIOGA's Environmental Committee is analyzing the changes in depth, and the organization will continue to try to ensure any new requirements are fair and common-sense. In the meantime, the following are initial observations from the committee's Air Quality/Emissions subcommittee.

- Exemption 38(a) will remain in place for "existing" operations that relied on it and comply with its provisions.
- Exemption 38(b) is available for operations (conventional and unconventional) that can comply with its provisions, including an annual 2.7 tons per year (TPY) "limit" for VOC emissions and a limit of 200 TPY methane limit for each individual source. Operations that cannot meet 38(b) provisions will need to request exemption via a Request for Determination, comply with GP-5A or submit a plan approval application. The subcommittee will be taking a closer look at Exemption 38(b) to evaluate its utility for the industry.
- Changes based on comments and other changes from draft permits to draft-final permits include:

Both GPs

- Federal requirements that are consistent with state best available technologies (BAT) were incorporated by reference rather than listing out the full federal regulations in the permit. This has the advantage of reducing the size of the permit and also of avoiding future issues around inconsistency between permit requirements and federal requirements if the latter are revised.

- Changes to notification requirements (single notification requirement for construction completion and commencement of operation, removal of scheduled blow-down notifications).
- De minimis sources may be installed if they meet the applicable criteria (except that engines or turbines with selective catalytic reduction (SCR) are not eligible for de minimis provisions).
- Natural gas-fired units rated less than 10 MMBtu/hr are removed from permits.
- Daily recordkeeping requirements for dehydration unit gas throughput and glycol circulation rate removed.
- Changes to BAT emissions levels for engines.
- Tanker-truck loadout control is required only if above control thresholds.
- Removed engine fuel flow meter requirement

GP-5A

- Removed requirements for temporary sources.
- Added requirement for venting of annular space.
- Removed requirements for operator to be present during manual unloading operations.

GP-5

- Remove turbine fuel flow meter requirement.
- Changes to BAT emissions levels for turbines.

The GPs and supporting documents, including a presentation outlining changes to the draft-final versions, can be found on the AQTAC webpage (go to www.dep.pa.gov and search on AQTAC). ■

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New study finds ‘very low’ methane leakage rates from Marcellus Shale

By Nicole Jacobs
Energy In Depth

A new Department of Energy-funded study conducted by researchers from Penn State University finds that methane leakage rates from natural gas wells and other infrastructure in the northeast Marcellus Shale are roughly 0.4 percent of production.

This is just the latest peer-reviewed study finding methane leakage rates well below the threshold for natural gas to maintain its climate benefits over other traditional fuel alternatives.

Researchers used a combination of methods to come to their conclusions—gathering samples from stationary towers that continually collected emissions readings over a two-year period and also performing a series of 12 aerial flyovers in May 2015.

Researchers noted during a webinar presentation of the study’s preliminary findings in July that it was the first time long-term continuous sampling of methane from natural gas activities had occurred, and that most existing studies that use aircraft data only sample for a limited number of days, usually only one to two, and often show a higher leakage rate. Including more days allows researchers to collect more accurate data, because emissions can be higher or lower on a given day, and can also be impacted by emissions plumes from other regions.

The results of the combined sampling showed an optimal mean leakage rate of 0.4 percent of production, which the researchers noted is “significantly lower than rates found using top-down methodology at any other basin.”

From the study: “Using the model optimization technique

presented in this study, we find a weighted mean **natural gas emission rate from unconventional production and gathering facilities of 0.36% of production** with a 2σ confidence interval from 0.27 to 0.45% of production. **This emission rate is supported by four mass balance calculations, which produce a mean of 0.40%** and a 2σ confidence interval of 0.08–0.72% of production. Applied to all the wells in our study region, this mean rate results in a leakage rate of 20MgCH₄ h⁻¹ for the year 2015 (*emphasis added*).

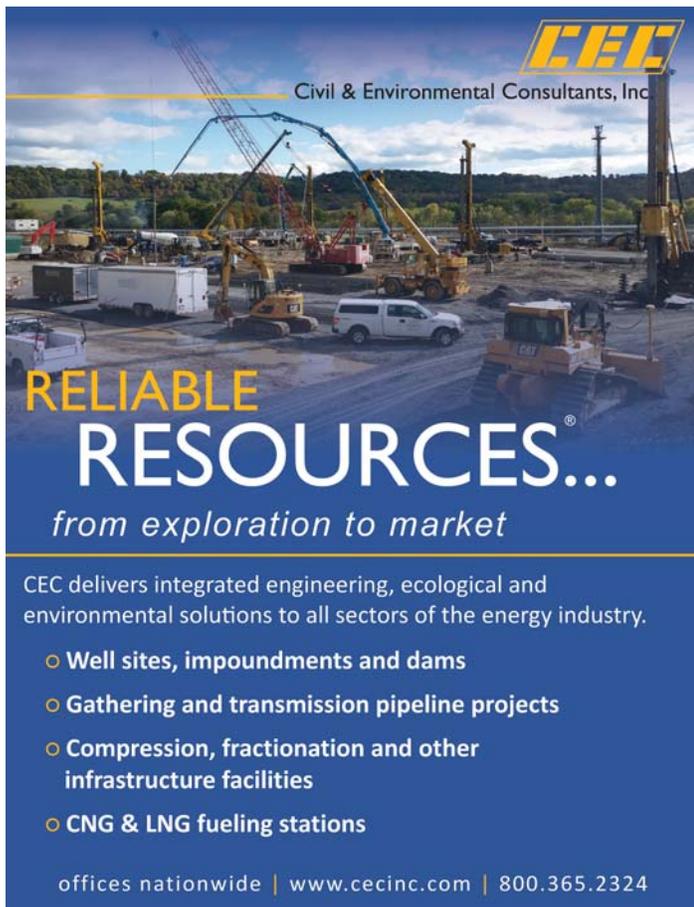
As one of the study’s authors, Thomas Lauvaux, said during the July webinar, “It seems like natural gas is a good solution now, at least for the Marcellus Shale. **Our results clearly suggest that it’s a clean source of energy.** And on top of that, we can suggest a lot of gas with a **very low leakage overall** from the infrastructure.”

In fact, the Appalachian Basin (Marcellus and Utica shales) has been experiencing significant reductions in methane emissions in recent years overall, according to the Environmental Protection Agency’s (EPA) latest Greenhouse Gas Reporting Program (GHGRP) data. The most recent GHGRP data shows methane emissions from natural gas systems dropped **3.5 percent in 2016** and by **63 percent from 2011 to 2016**.

And while Marcellus methane leakage rates may be incredibly low, that in no way implies that these rates are high elsewhere.

EPA’s recent Inventory of U.S. Greenhouse Gas Emissions and Sinks showed U.S. natural gas systems had a methane leakage rate of 1.2 percent in 2015—which is 30 percent lower than global average. Overall, EPA data show that these emissions have plummeted since 1990 at the same time production has skyrocketed.

Marcellus Shale production is helping the Commonwealth to lower carbon emissions with \$10.5 billion worth of new power natural gas-fired power plant investments, and as this latest study shows, those benefits aren’t even close to being cancelled out by methane emissions from record production. ■



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DRBC moves ahead with fracking ban

To no one's surprise, the Delaware River Basin Commission (DRBC) has taken the next step in permanently banning oil and gas development in a 14,000-square-mile region that includes the northeastern tip of Pennsylvania. On November 30, the DRBC posted on its website revised draft amendments to its regulations and comprehensive plan, prohibiting high-volume hydraulic fracturing in hydrocarbon-bearing rock formations.

The commission is holding four public hearings—two on January 23 in Waymart and two on January 25 in Philadelphia. Written comments will be accepted until February 28.

Although the proposed regulations “reinforce commission policies to discourage importation of wastewater and exportation of water,” the rules would allow both the inter-basin transfer of water for use in natural gas well development as well as importation of produced water for treatment within the basin.

According to a news release on the DRBC website, “The draft rules also include provisions for ensuring that the treatment and disposal of produced water from hydraulic fracturing does not impair or conflict with the preservation of the waters of the basin for uses in accordance with the DRBC comprehensive plan.”

Development of oil and gas using hydraulic fracturing in the Delaware River basin has been an issue since 2010, when the DRBC voted unanimously to “postpone consideration of well pad docket until regulations are adopted.” This action effectively placed a de facto moratorium on drilling for natural gas in several counties in northeastern Pennsylvania. The DRBC is made up of representatives of Pennsylvania, New York, New

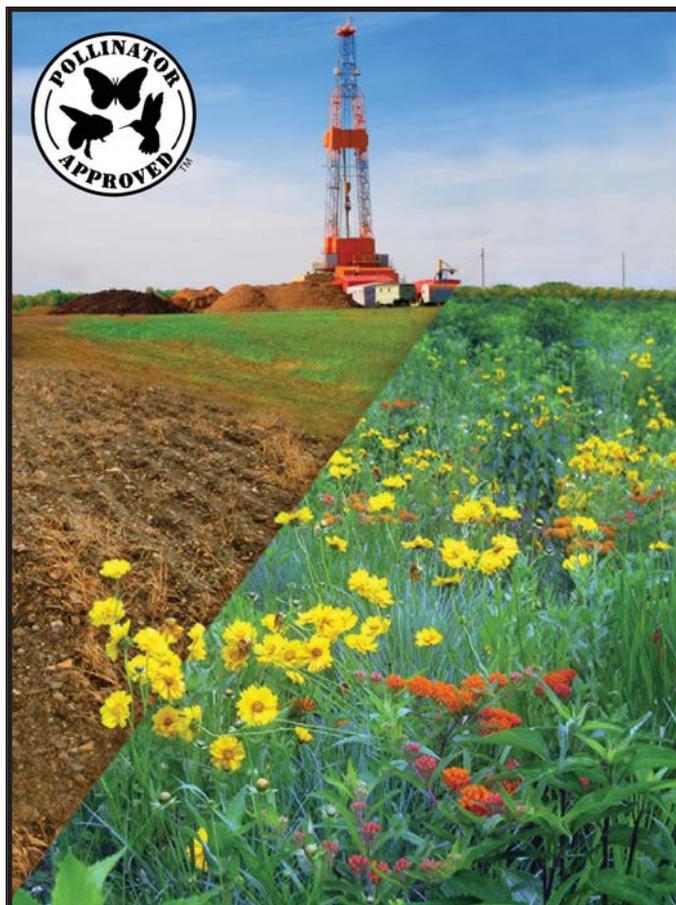


Jersey and the federal government to manage water quality, withdrawals, droughts, floods, conservation and permitting for the river and its tributaries.

In September, the commission voted to direct staff to draft regulations by November 30 prohibiting horizontal drilling and hydraulic fracturing in the basin, asserting that unconventional natural gas development “presents risks, vulnerabilities and impacts to surface and ground water resources across the country” (*October PIOGA Press, page 10*).

The draft regulations, along with information on how to register to speak at one of the public hearings or submit written comments, can be found at www.state.nj.us/drbc/programs/natural. PIOGA will be providing comments on behalf of the industry against the proposed ban.

A federal court is considering a challenge of the DRBC ban by a group of Wayne County land and mineral owners. ■



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PIOGA happenings

Annual Tax and Accounting Seminar a great educational session

On November 30, more than 35 people attended our Annual Oil and Gas Tax and Accounting Seminar, sponsored by PIOGA's Tax Committee and member company Arnett Carbis Toothman, PLLC (ACT).

This year's seminar covered not only the changes in various federal, state and local taxes, but also provided a detailed overview of the industry as it relates to oil and gas so those in attendance could learn how to maximize tax and economic benefits and how planning ahead for current and future opportunities and challenges will be important.

The day was kicked off by PIOGA's President and Executive Director, Dan Weaver, who highlighted the current state of the oil and gas industry in Pennsylvania and our battle against a severance tax. The lead presenter and chair of PIOGA's Tax Committee, Don Nestor, provided an introduction to oil and gas operations and planning for upcoming changes in the energy sector. ACT presenters utilized their years of experience in the oil and gas industry to help explain key tax benefits such as the Marginal Well Credit and standard tax issues that everyone in the oil and gas industry should be aware of and should plan for.

Participants left equipped with an array of informational resources that included easy access to data such as a detailed glossary of industry terms and a listing of geological formations where gas and oil are produced and other useful industry information. For those who needed professional development credits, they were able to earn CPE or CLE credits.

PIOGA extends our sincere thanks to the team from Arnett Carbis Toothman for all their efforts to hold this annual seminar and to provide this valuable educational event to PIOGA members and guests. A special thanks to Don Nestor, CPA; Charlene Tenney, Business Outsourcing Services Supervisor; Ryan Nestor, CPA, CGMA; J. Marlin Witt, CPA, CFP, CGMA; and Scott Stone, Chief Information Officer. And lastly, we thank our sponsor, Avatar Software, for supporting the seminar also. ■



Board member orientation

Gathered for an orientation last month for new and reelected members of the PIOGA Board of Trustees were (from left): Carl Carlson, Range Resources; Frank Ross, T&F Exploration; Jake Stilley, Patriot Exploration; Ben Wallace, Penneco Oil Company; Steve Williams, Summit Petroleum; and Jeff Walentosky, Moody & Associates. Missing from the photo is Todd Tetrick of EnerVest Operating.

Top photo: Attendees of the 2017 PIOGA Oil & Gas Tax and Accounting Seminar. Bottom: PIOGA President and Executive Director Dan Weaver (left) and Tax Committee Chairman Don Nestor discuss the state of the industry. The 2018 tax seminar is scheduled for November 28.

Industrial fire training



Left photos: Participants in the November 9 PIOGATech training event learn how to safely deal with fires in industrial settings at Butler County Community College.

Below: A good time was had by all at the well-attended cigar dinner mixer held on November 9 at Mallorca Restaurant in Pittsburgh. We have a full schedule of technical training and soal events lined up for 2018. Watch your email for announcements!

Cigar dinner mixer



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PIOGA board chairman tours Pittsburgh's Energy Innovation Center

Gary Slagel, chairman of PIOGA's Board of Directors, was recently invited to tour Pittsburgh's Energy Innovation Center (EIC) with other energy-related representatives. The tour included a briefing on the pre-apprenticeship programs being conducted at the center.

EIC is located at the former Connelly Vo-Tech High School, near the site of the former Civic Arena in the lower Hill District. The building has been significantly renovated and now houses energy research facilities used by Carnegie Mellon University, the University of Pittsburgh, Robert Morris University, Duquesne University and the Community College of Allegheny County. The center also initiated a pre-apprenticeship program two years ago—the focus of this visit—to introduce and prepare entrants for careers with trade unions in the tristate area.

Entrants to the program are from all ages and backgrounds—many looking to move from minimum-wage jobs to family-sustaining careers. Entrants must remain drug free and the six-to-eight week program covers, among other things, life skill training, financial literacy, construction math and an introduction to the opportunities available with 17 different trade unions. Graduates receive a cer-



Shown here are representatives from Cabot Oil and Gas, Williams, Seneca Resources, the Consumers Energy Alliance, and staff and graduates of the Energy Innovation Center's pre-apprentice program.

tificate of completion, CPR training certificate and OSHA certification. They are asked to pick a preferred trade union and are subsequently prepped for interviewing for that respective apprenticeship program.

This program, running classes of 25, has had 124 graduates in its two-year life, and there is a waiting list for this life- and career-changing program. Virtually all graduates are placed in the apprenticeship program of the trade of their choice. The program is open to men and women. Slagel's group had the opportunity to hear from the center's two program directors and two recent graduates—one a young woman who is now a heavy equipment operator with the Operating Engineers Union and a young man starting with the Laborer's Union.

This program is supported by a number of corporations and foundations, including energy companies. Not surprisingly, many of the trades are supplying workers for the upstream, midstream and downstream sectors of the shale gas industry, hence the value of this program to the energy industry. This visit was arranged by Cabot's George Stark and included reps from Seneca Resources, Williams, the Consumer Energy Alliance and Steptoe & Johnson. The hope is that the industry can use the success of this program to demonstrate the wide range of jobs and opportunities the shale gas revolution has created to temper some of the negative impressions still confronting the industry. ■

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Where in the world is the PIOGA outreach team?

By Joyce Turkaly
Director of Gas Market Development

The fourth quarter of the year saw a mix of energy conferences, rallies and forums:

■ **Energy rally**

The CEO of the Energy Equipment and Infrastructure Alliance, Toby Mack, organized an energy rally that was hosted by the Harrisburg office of Cleveland Brothers Caterpillar. The intent was to bring public support while mobilizing the people



who depend on this work to support their livelihood. Hundreds of industry professionals (including PIOGA), Cat employees as well as pipeline and service companies were gathered to show their support. Supporters listened to speeches from state senators and representatives, industry leaders and Jay Cleveland of Cleveland Brothers, who said “job, jobs, jobs” and went on to further state that the benefits of the work extend far beyond the oil and gas industry.

■ **Welcoming the petrochemical industry by identifying sites and replicating across the tristate region**

The Tri State Shale Coalition was created in October 2015 and comprises the three economic development teams from West Virginia, Ohio and Pennsylvania as well as chemical and plastics experts. Under a regional cooperation agreement,

the participants pledged to use their resources and talent collaboratively to market and build out an Appalachian petrochemical industry. The coalition kicked off its second meeting at Stark State College’s Canton, Ohio, campus on November 29. Speaking on progress made thus far to identify ready sites, West Virginia University’s Dr. Brian Anderson said “the opportunities are very exciting.” He commented that the Southern States Energy Board, comprised of 14 governors from Texas to West Virginia, signed a memorandum of understanding (MOU) to support the Appalachian natural gas liquids (NGL) storage hub and expressed that this is not a competition between us and Texas. The MOU is the first step to a 20-year business deal with financial backing from China Energy, a deal that West Virginia Governor Justice and Commerce Secretary Thrasher state will bring \$83.7 billion into their state over the next two decades. Anderson said that Shenhua, which is part of a merger with China Energy, is eager to begin phase one.

NGL production from the Appalachian Basin has increased tenfold from a baseline in 2007 of 30,000 Bbl/d to nearly 400,000 Bbl/d in 2016. The Appalachian Basin provides access to markets and a competitive pricing advantage simply due to the abundance. Transportation costs for moving ethane via pipe from the basin to Mont Belvieu, Texas, is approximately \$0.16/gal, while the cost of rail transportation for propane is \$0.30/gal. The current Mont Belvieu price for ethane is \$0.21/gal and \$0.43/gal for propane. Ethane storage is key to the development of a robust NGLs trading market. It is expected that the U.S. and Mid-Atlantic Region would benefit from infrastructure development to satisfy the feedstock and offtake requirements for world scale and distributed manufacturing needs.

Truly, this is an effort across the Pennsylvania Department of Community and Economic Development; Secretary Davin was said to be “on board with this vision.” Team NEO and Jobs Ohio are a task force working actively in the three states. Land appears to be an issue; however, ready sites that are cross river—meaning that if a site is 200 acres in Ohio and 300 acres in West Virginia, all you need, according to the economic development



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partners, is to develop the right type of infrastructure and connect them under the river and market it as a 500-acre site. Not everyone is Shell; \$200 million was spent on civil and site engineering at the Beaver County location. Jobs Ohio spent \$20 million on remediating a site for PTT Global and getting it up to a certification spec so that PTT could walk in and not have the legacy brownfield issues, Dr. Anderson commented.

■ Natural Gas for High Horsepower Summit

PIOGA and Gladstein Neandros have common goals when it comes to encouraging alternative fuels for OEM engines large and small. A collaborative approach to understanding opportunities and addressing associated commercial barriers to liquefied natural gas (LNG) is crucial to encouraging the adoption of the fuel as an alternative to traditional bunker fuel. Although LNG provides a viable long-term solution, the challenges to such as adoption must first be best understood if LNG is to reach its full potential. At the HHP conference held in Jacksonville, Florida, collaboration, demonstration, and communication are the three essential elements to continue to develop an effective and efficient global LNG value chain by 2020. Caterpillar's Large Power Systems Division compares emissions from LNG versus diesel by lowering greenhouse gases, reducing CO₂ by 20 percent, NO_x by 80 percent, soot and particulates by 95 percent, and 100-percent sulfur oxide reduction. With the lack of deliverability in the Northeast and RTO/ISO nonperformance penalties for generators in both PJM and ISO-NE markets, LNG storage tanks were discussed as a backup fuel solution for power generation by PIOGA member David Kailbourne of REV LNG. Our thanks go out to Barbara Brentano for partnering with and sup-

porting PIOGA's downstream mission. For more information on the conference, please contact joyce@pioga.org.

■ Allegheny Conference annual meeting announced new leadership

Focused on community development, Allegheny Conference's annual meeting provided attendees with a summary of projects within the 10-county region of southwest Pennsylvania. Admittedly, the buzz of the evening was the potential for Amazon.com HQ2 to move to the city, a competition Pittsburgh is hoping to win. Replacing Dennis Yablonsky as CEO, Stefani Pashman's speech was "Moving the Region Forward Together." Stefani along with Bill Demchak, President and CEO of PNC Bank as well as the new Vice Chair of the conference and chair for workforce strategy, will begin in January. He looked forward to working with Stefani on the great things the region will accomplish. Addressing the city's water issues and construction options to enhance water service, quality and delivery, Demchak commented that the report "painted a damming picture." The future of the workforce needs is provided in a report entitled "Reflection Point 2017-2018." More information can be found at annualreport2017.alleghenyconference.org/workforce.



■ FERC Commissioner Powelson visits Pittsburgh and makes a stop at the Allegheny Conference

Federal Energy Regulatory Commission Docket R18-1 sets up the conversation around resiliency and reliability, and next steps in the conversation current lie in the hands of FERC. One option that FERC could take would be blanket support of the Department of Energy notice of proposed rulemaking. Commissioner Powelson (shown above) said that they have taken 700 comments from various stakeholders, with the majority concern being the potential that FERC may go down the pathway of picking winners and losers. During the 2014 polar vortex where the PJM grid experienced a 24-percent forced outage rate, Powelson said "there are enough sins in the room to go around." He is not against valuing resiliency, but after the polar vortex he said that he got "scorched" in the Pennsylvania Senate for all the customers who were on variable rates. Jokingly, he mentioned that PJM took two hours to watch 60 minutes and came up with "Capacity Performance." As the former Chairman of Pennsylvania Public Utility Commission at the time, he was told that if he supported this filing, it would solve and provide the uplift for those 24-percent forced outage rate companies. At the time, he implied that with capacity performance we would never have this same problem again, yet "and here we are having the conversation again," he commented. Powelson emphasized that he is not against valuing resiliency, but not going to support a \$3-billion "bridge plan" for generation assets. ■

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Capacity and project need in sync through 2020: A recap of the Platt's Appalachian Oil & Gas Conference

By Joyce Turkaly

Director of Natural Gas Market Development

2017 brought consolidation of the industry. Companies could get only so far creating shareholder value in a low natural gas price environment. With all Pennsylvania acreage positions locked up, extending laterals has accounted for a 25-percent increase in production in wet gas and a 35-percent increase in dry gas in Southwest Pennsylvania since 2013. Speaking at Platt's 10th Annual Appalachian Oil & Gas Conference, October 23-24 in Pittsburgh, Analyst and VP Sameer Panjwani of Tudor Pickering Holt explained that since 2013 lateral lengths in the basin have increased 84 percent and proppant loading has increased by 85 percent.

Range Resources CEO Allan Farquharson, speaking of continued success, said it means a few things: holding contiguous acreage positions, understanding the reservoir and not developing the acreage all at one time. With over 10,000 wells and with up to 8,000-foot laterals, Farquharson said 4,700 wells have been improved; "the high quality DUCs are completed," thanks to the technical side improving efficiency. Improving economies of scale given low natural gas prices means selling into local markets, having access to markets in the U.S. (25 states currently) as well as exporting LNG to Mexico. With 2020 production estimates from the Marcellus and Utica at 30-32 Bcf/d, 10 Bcf/d is slated for takeaway outside of the Appalachian region.

Up next was Steve Woodward, Senior VP Business Development, who spoke of Antero's holding of West Virginia acreage as the "largest core acreage," approximately 70-80 percent of the Marcellus in West Virginia. Woodward called the state "blessed" due to 55-60 percent of the gas stream comprised of C2 or ethane and commented that 30M Bbl/d of ethane will reach the Shell cracker facility in 2021. Woodward commented that along with operational efficiencies, market diversity, gains on hedging and holding midstream assets (60 percent of the market cap); a JV announced in February 2017 between Antero and MPLX Sherwood facilities.

Enbridge's Bobby Huffman, Director Business Development, highlighted the company's diverse portfolio of transmission, gathering, storage of NGL, gas and crude, and power generation. Huffman stated that currently 6.5 Bcf/d of Appalachian shale gas flows into Texas Eastern (TETCO); by Q4 2018, TETCO will have the capacity to move 9.5 Bcf/d. Growth projects are slated for in-service dates from now to 2019, he said. NEXUS is evaluating power generation needs of the Michigan, Ohio and Eastern Canadian markets. NEXUS is currently under construction and anticipates a completion date of Q3 2018. As do many of the other projects, NEXUS will serve primarily natural gas combined cycle power projects, industrial and commercial load, and retail end use markets—the equivalent of 2 Bcf/d between now

and 2021—powering 15,000-20,000 MW in this market area alone. The hubs of Chicago, Dawn (Ontario), and MichCon are viewed as the Great Lakes markets. The traded volumes in this market alone were represented to be higher in volume trading than that of the Henry Hub—about 25-30 percent more in most months.

Growth in natural gas infrastructure by the end of 2019 is expected to result in almost 17 Bcf/d in additional takeaway capacity. Whereas three years ago it was anticipated that the first of many projects would be built into the Northeast and into the New England states given the need for natural gas as firm reliable supply, however, with Transco Constitution delayed and Penn East awaiting FERC approval the future is less certain. A similar story holds for Mid-Atlantic projects as Dominion's Atlantic Coast awaits final EIS approval and EQT's Mountain Valley is awaiting FERC approval. As these other projects are pending next steps, projects to supply natural gas in both the Gulf Coast and Midwest markets remain strong. All end-use customers who have been spoiled by buying spot or next day may need to pay attention to market drivers, capacity being a very important future indicator.

With all this good news around takeaway capacity, it is estimated that just three short years into the future we will find ourselves tipping back to the oversupply scenario. Taking into account a recent IHS forecast and comparing it to FERC filed projects, by 2020 capacity out of the basin will tighten. Speakers at the conference did indicate that the support of new markets will spur more production growth and like trying to sell an unending supply of Christmas fruitcake into July, we will not have enough takers. Merry Christmas and Happy New Year! ■

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The map shows the Appalachian region with Westmoreland County highlighted in red. A legend identifies the Marcellus Shale area (brown), Devonian Black Shale Succession (blue), Rome trough (pink), and Westmoreland County (red). A red callout box lists: Rail service, Prime location, and Established supplier network.

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Partnerships for Regional Economic Performance



Short service employee programs

By Wayne Vanderhoof CSP
RJR Safety Inc.

With the national downturn of the oil and gas industry beginning in mid-2014 and the associated reduction in workforce by 50-60 percent (anecdotally), today's slow resurgence of the industry will require the buildup of the workforce. With the influx of new employees to the industry, there needs to be robust program with which to train new workers to control and keep low the number of workplace injuries that new employees historically make up as a significant percentage of total workplace injuries. This is done with a well-developed and adhered to Short Service Employee Program.

A short service employee (SSE) generally is defined as either someone with fewer than six months of continuous employment with the person's present employer or an employee with under six months' experience in his or her assigned job.

Published statistics bear out the fact that 65 percent of fatalities occur within first year of service and of those, 34 percent occurred within the first three months of employment. Besides fatalities, the statistics show that 30-40 percent of injured workers have been on the job less than a year. Further, a review of statistics from the Bureau of Labor Statistics database reveals that employees with less than one year of experience had a significant number of injuries that were considered as "Days Away" cases, ranging from 29 percent in 2013 to nearly 32 percent in 2015.

Among potential reasons for these high percentages of workplace injuries are that new employees do not know the specific job tasks or hazards, new employees do not know the specific hazards of the work environment, employers assume new employees know more than they do, when asked if the new employee understands the task they blindly say "Yes!", new employees may not ask questions or employers hire the "wrong" people.

Elements of a Short Service Employee Program

Under API guidelines, the first element of a Short Service Employee Program is identifying the SSE with either a sticker on the hardhat or with a contrasting-colored hardhat different from other workers so that coworkers can identify someone who is potential a hazard to themselves, their coworkers and others.

The next element is for the SSE to undergo basic safety orientation such as SafeLand USA or OSHA Outreach training. The orientation also is recommended to include training on employer-specific safety procedures/policies and jobsite orientations.

The final element of a Short Service Program is assigning a mentor to provide guidance, development, and transfer skills and knowledge to SSE in an organized and documented manner using peer-to-peer involvement. The basic qualifications for a mentor are a positive safety attitude, the ability and willingness to instruct and coach, specific knowledge and experience in the tasks being trained, and the ability to coach and provide constructive feedback without criticizing or berating.

Employees serving as a mentor must be able to lead by example, meaning they do not take shortcuts or exhibit unsafe actions or unsafe behaviors. The mentor ensures the SSE understands the day's tasks and reviews hazards and safe work practices for each task with the SSE while following the job safety analysis or equivalent document. The mentor must always be open and

Safety Committee Corner

available for questions, even encouraging questions and discussion. The mentor must provide close supervision of the SSE and observe the SSE while performing tasks.

A Short Service Program should also include a specific process for an employee to be released or "graduate" from SSE status with the training and competency evaluations being specifically documented. There should be a specific recommendation for release from SSE status from each of those involved, including the mentor, supervisor and potentially an operator representative.

Developing a Short Service Employee Program

Some of the key areas of the SSE Program include creating the company-specific definition of an SSE; defining the responsibilities of the SSE, mentor, supervisors and management; identifying the anticipated length of training; and the basic process of SSE training.

There should be a section that explains an exception to the SSE Program whereby an experienced worker comes to the employer with the requisite skills to perform the tasks and just needs to be indoctrinated with the specifics of the company such as using the specific tools, learning the specific standard operating procedures and learning specific customer requirements. In this case, there may need to be an abbreviated training program for the SSE.

Every element of the Short Service Employee Program should be documented and include checklists for the mentor to follow indicating the specific safety training that is required, specific SOPs or work instructions the SSE is to be trained upon, and the specific tasks that the SSE will receive training on and the specific qualitative evaluation criteria the SSE will be evaluated upon.

There should be periodic evaluations of the SSE that do not necessarily include specific tasks. Evaluations should include their attitude toward the work, their attitude toward safety, their ability to work within the culture of the company, their willingness to accept feedback and coaching, their overall development as an employee, their ability to identify hazards, general compliance with safety procedures and similar items. This type of qualitative evaluation should be conducted at specific intervals such as at two weeks, at a month, at 60 days, etc., to determine if the SSE is showing improvement as perceived by the mentor. Coaching and feedback should be provided to the SSE on this evaluation as well.

Once the employee has successfully completed the Short Service Employee Program, the mentor, supervisor and other members of management will need to specifically sign off on the employee's release from the SSE program. It should be communicated to the employee what the responsibilities are now that they are no longer in the SSE Program. This release form the SSE Program should be documented and communicated to the operator's representative, if required. ■

This article is derived from the Proceedings Paper presented at ASSE Safety 2017, Session 510, June 20, 2017, in Denver Colorado.

End-of-the-year checkup concerning personnel files

It is officially that time of year again. The weather will soon be frightful, and if your place of employment is anything like mine, the first of many holiday parties is already in the rearview mirror. Please don't worry, this is not another article about how to behave (or how not to behave) at an office party. No, this article is about a considerably less scandalous topic: whether and how employees and former employees may view their own personnel files. Please try to contain your enthusiasm, and demonstrate a bit of holiday charity by continuing to read.

Author:



Stephen A. Antonelli

Babst Calland
Attorneys at Law

Many employers use the month of December to wrap up financial matters and to plan for the coming year by preparing goals, budgets, forecasts and strategic plans. Many employers also use this time of year to conduct employee reviews and make determinations about employees' compensation. Hopefully, most of your employees will receive good or even great reviews. Some may even receive yearend bonuses. (Side note: if paid to non-exempt employees, bonuses should either be (1) discretionary or (2) taken into consideration when calculating the regular rate for overtime purposes, but that is another article for another issue of *The PIOGA Press*).

Some employees receive a review that is the equivalent of a proverbial lump of coal. As you might imagine, employees who receive such reviews react in a number of different ways. Some react emotionally, others stoically. Some take constructive criticism to heart and address the problematic aspects of their review head-on, in a sincere attempt to improve upon their performance. Others immediately begin to search for a new place of employment. Most react somewhere in between.

Those employees who receive mediocre to problematic reviews may wish to review their personnel files. Pennsylvania employers should be mindful of the fact that the law entitles them to do so—within certain parameters.

Pennsylvania's Inspection of Employment Records Law, 43 P.S. §§ 1321-24, (the "Personnel Files Act") entitles employees (or an employee's designated agent) to view their own personnel records once each calendar year, absent reasonable cause to do so more frequently. The law gives employees this right to review their own files for the purposes of determining "qualifications for employment, promotion, additional compensation, termination or disciplinary action." As a result, employers must reasonably make the records available during regular business hours.

Employers can (and should) make and enforce rules concerning the manner in which employees can request and review personnel records. For instance, employers can require requesting employees to inspect the records on the employee's free time, rather than while they are on the clock. Employers can also require requesting employees to fill out a form when requesting access to the files, and they can prohibit employees from removing the records from the employer's premises. While employers may prohibit employees from copying the records, employers

should allow employees to take notes about the content of the records. Moreover, employers should allow employees sufficient time to review the records, commensurate with the size of the file. Finally, employers have the right to protect their records, and therefore they may require employees to inspect the records in the presence of an official designated by the employer.

But what about those individuals who are no longer employees? What rights, if any, do they have to review their own personnel records? Suppose a performance review later this month results in either a termination or a resignation. Is the recently separated former employee entitled to review his or her own personnel file following the end of employment? Does the answer depend upon the length of time between the separation and the request to view the file? Earlier this year, the Pennsylvania Supreme Court clarified this very issue.

Prior to this summer, this area of the law was unclear. In 1996, the Pennsylvania Commonwealth Court held, in *dicta*, that former employees could review their personnel files if they made the request to do so contemporaneously with termination, or within a reasonable time immediately following termination. *Beitman v. Dep't of Labor & Indus.*, 675 A.2d 1300, 1302 (Pa. Cmwlth. 1996). Since then, the Pennsylvania Department of Labor and Industry developed a policy of allowing former employees to access their personnel records within a "reasonable" amount of time, which generally meant within 30 days of termination. That changed during the summer of 2017 with a ruling by the Pennsylvania Supreme Court.

In *Thomas Jefferson University Hospitals, Inc. v. Pennsylvania Department of Labor and Industry*, — A.3d — (2017), 2017 WL 2651980, the Pennsylvania Supreme Court overruled *Beitman* when it held that the plain language of the Personnel Files Act applies only to current employees, including those who have been laid off with re-employment rights, and those who are on leaves of absence. In its opinion, the court characterized the Commonwealth Court's definition of the term "current" as strained and stated that "the term 'currently employed' cannot mean both presently employed and formerly employed." *Id.* at 6. The court then held that "former employees, who were not laid off with re-employment rights and who are not on a leave of absence, have no right to access their personnel files pursuant to the act, regardless of how quickly following termination they request to do so." *Id.* at *8.

Whether in the context of upcoming performance reviews or otherwise, employers should be mindful of this recent change in the law. ■

Have industry colleagues or vendors you think should be PIOGA members? Encourage them to click on "Join PIOGA" at the top of our homepage, www.pioga.org. Or, let us know and we'll contact them. We can accomplish far more together than we can individually!

National report on natural gas access and expansion released

A national task force on natural gas access and expansion co-chaired by Pennsylvania Public Utility Commission (PUC) Commissioner John F. Coleman Jr. has issued a new report detailing best practices and recommendations regarding natural gas service for underserved and unserved areas of the country.

The task force created by the National Association of Regulatory Utility Commissioners included in its review:

- Studying current access, expansion and service extension policies;
- Examining the need for access and expansion;
- Reviewing barriers and obstacles to such access;
- Recommending potential mechanisms to address the benefits and opportunities for access and expansion:
 - Identifying alternative or unconventional approaches; and
 - Compiling “best practices” on access and expansion to underserved and unserved areas.

The task force report includes eight recommended mechanisms and best practices for state public utility/service commissions, including:

1. A robust, open, and transparent process for stakeholder input.
2. No-cost line extension programs for natural gas distribution companies (NGDCs), within certain parameters.
3. Updating NGDC contribution in aid of construction

(CIAC) calculations, to reflect current market realities and expectations.

4. Allowing consumers to pay a CIAC over time, rather than an up-front, lump-sum payment;

5. Targeted NGDC natural gas expansion programs.

6. An opening for natural gas expansion programs that target all customers, including large commercial and industrial users, and where appropriate, encouraging the use of anchor customers.

7. Consideration for NGDCs financial assistance to customers to convert appliances and equipment, to help mitigate the “behind the meter” costs of gas conversions.

8. Innovative financial ratemaking incentives for NGDCs to build out their natural gas distribution networks.

“While there is no single ‘silver bullet’ that can be applied everywhere, there are numerous opportunities to move the process forward—and I am proud to note that many of those ‘best practices’ are already being used in Pennsylvania,” Coleman said.

To read the report, visit pubs.naruc.org/pub.cfm and use the keywords “gas access.” ■

PIOGA Member News

Greylock Energy acquires ECA

ArcLight Capital Partners has announced that its affiliate, Greylock Energy, has acquired substantially all of the gas production and midstream assets of Energy Corporation of America (ECA). Simultaneously, Greylock Energy also completed a related transaction to acquire membership interests in First ECA Midstream, which owns several gathering and transmission pipeline systems in a joint venture with ECA.

Greylock Energy is supported by a \$400 million equity commitment from ArcLight and certain co-investors to pursue gas production and midstream opportunities in Appalachia with a core focus on development of its existing West Virginia and Pennsylvania operations. The acquired assets include over 4,400 operated wells, approximately 713,000 net deep acres and 2,600 miles of gathering assets. Greylock Energy will be led by Kyle Mork, the former CEO of ECA, with over 13 years of experience managing and operating gas production and development activities in Appalachia. He will be joined by other former members of the ECA management team.

ARG opens new quality lab

Just more than a year after breaking ground, American Refining Group Inc. (ARG) has completed construction of the new multimillion-dollar quality lab at its historic refinery in Bradford. Formerly housed just inside the facility’s main gates, the lab now adjoins the research and development building roughly one-quarter of a mile away from the original location. The massive project required considerable collaboration and planning to ensure the lab’s services to the refinery and its customers continued without interruption throughout the move.



<p>Geotechnical</p> <p>Environmental</p> <p>Ecology</p> <p>Water</p> <p>Construction Management</p>	<p>GZA GeoEnvironmental, Inc.</p> <ul style="list-style-type: none"> • Certified AST Inspection • Spill Planning • Upstream and Midstream Environmental Permitting • Construction Management • Water Resourcing • Air Permitting and Monitoring • Geotechnical Engineering
<p>GZA GeoEnvironmental, Inc. www.gza.com 27 Offices Nationwide</p> <p>David Palmerton, Principal Bridgeport, WV 304-848-0467</p> <p>Carol McKnight, Sr. Project Manager Cincinnati, OH 513-782-0012</p>	<p>Laurel Oil & Gas Corp.</p> <ul style="list-style-type: none"> • Conventional and Unconventional Drilling and Completion Programs • Operations and Production Services • Workovers and Recompletions • Well Plugging Management • Storage Field Operations • Re-Entry/Sidetracks
<p>Laurel Oil & Gas Corp. A Division of GZA GeoEnvironmental, Inc. www.laureloilandgascorp.com</p> 	<p>www.gza.com www.laureloilandgascorp.com</p>

ARG's quality lab has a staff of 16 employees who, between them, support refinery operations around the clock, ensuring top-quality fuels, base oils, resins, solvents, waxes and blended lubes. These in-house chemists and technicians process 5,500-6,500 samples per month (totaling approximately 30,000 tests) in addition to managing equipment, performing verifications, calibrations and troubleshooting or repairing instruments.

ARG Chief Executive Officer Tim Brown said, "We've been investing a lot of money in the things that are very important and this is an extension of that because quality is one of our pillars. Our lab personnel are essential to all aspects of ARG; they're supporting not just operations, but our customers, our suppliers, our sales team, our logistics, the environmental side; they are absolutely key to what we do and how we do our jobs."

Babst Calland's expansion results in move to new D.C. office

The law firm of Babst Calland has moved its Washington, D.C., office to a new location. Following a period of growth and expansion, the firm has outgrown its previous location and has

moved to its new location at 505 9th Street NW, Suite 700, Washington, DC 20004. Babst Calland opened its Washington, D.C. office in January 2016 representing clients throughout the U.S. on matters relating to pipeline safety and the transportation of hazardous materials. This year, the firm expanded its team to support clients in a broader range of transportation safety matters, including its motor vehicle safety, regulatory and compliance practice (including automated driving system issues). ■

New PIOGA members — welcome!

Midstream Pipeline & Fabrication, LLC

1132 Cherry Run Road, Ford City, PA 16226

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Pipeline—construction, drilling, equipment & supplies, equipment sales, reclamation products, transportation

EarthRes Group, Inc.

A recent addition to PIOGA, EarthRes is a multi-disciplinary engineering and consulting firm serving the energy sector and the solid waste, mining, manufacturing, food and beverage, and commercial sectors. EarthRes was founded in 1995 by President Jan C. Hutwelker, with corporate headquarters in Pipersville. In 2013, we opened our second location



in Morgantown, West Virginia, to better serve our clients in Western Pennsylvania, Eastern Ohio and West Virginia. From that office we provide services to the growing

shale play production and processing operators in the Marcellus-Utica region.

EarthRes' natural gas services span the upstream, mid-stream and downstream segments and include planning and development, environmental permitting and compliance, field services such as geotechnical investigation and gas monitoring, and engineering and design for civil and mechanical projects such as well pads, impoundments, compressor stations, gas pipelines and gas processing.

Experienced with the regulations and compliance requirements with shale gas development and the ruling authorities in the region, we can develop our clients' projects from conception to reality. Our extensive knowledge in soils, geology, water resource engineering, hydrology, wetlands, impoundment design and construction, and environmental permitting give us a unique edge that you can't find just anywhere. We offer full

PIOGA Member Profile

MODFLOW/MT3DMS capabilities and experience to demonstrate aquifer geometry/recharge and sustainability prior to site development.

Howard Murphy Jr. was recently appointed as our Director of Energy Services. Howard comes to us with extensive industry knowledge in natural gas, natural gas liquids and liquefied natural gas and is a graduate of the esteemed Executive Management Program at Penn State University, Smeal College of Business, in addition to holding a BS in mechanical engineering from West Virginia University. A thought leader in the industry, we look forward to having Howard on board to assist clients with even larger and more complex projects as well as partnering with PIOGA with its initiatives.

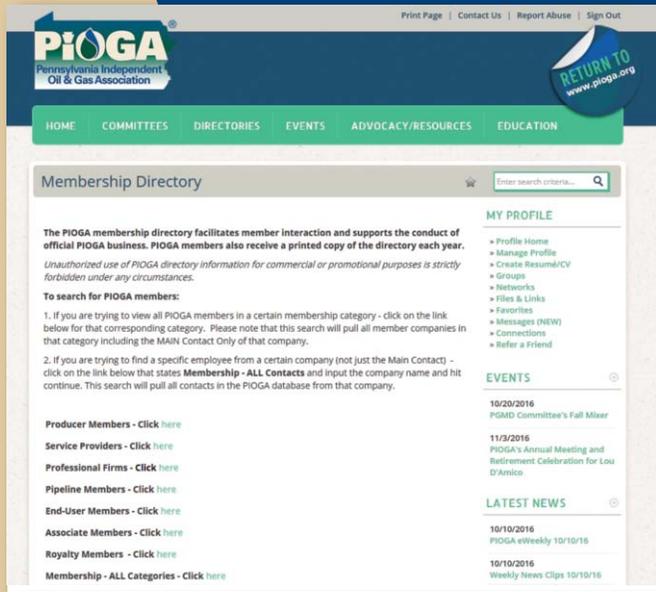


Howard Murphy Jr.

States Murphy, "We are very excited to join the elite ranks of PIOGA and feel we have much to offer to PIOGA and fellow members. There is unprecedented natural gas development unfolding in the tristate area, with cracker facility development in northwest PA and the planned development in Ohio and China Energy's investment (MOU) in West Virginia. A balanced and diversified portfolio of outlets for ethane comprised of pipeline to existing cracker facilities and new cracker capacity close to the ethane source spreads the wealth across all affected stakeholders. The proposed investment in West Virginia's world-class gas and chemical resources will unlock significant value to the benefit of West Virginia, the tristate region and the U.S."

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It's easy and fast to log into your account!

Just click on the Members Only link at the top of our homepage, www.pioga.org, and input your username (usually your email address) and password. If you don't remember your password, just click *Reset my password* and you'll receive a new one via email.

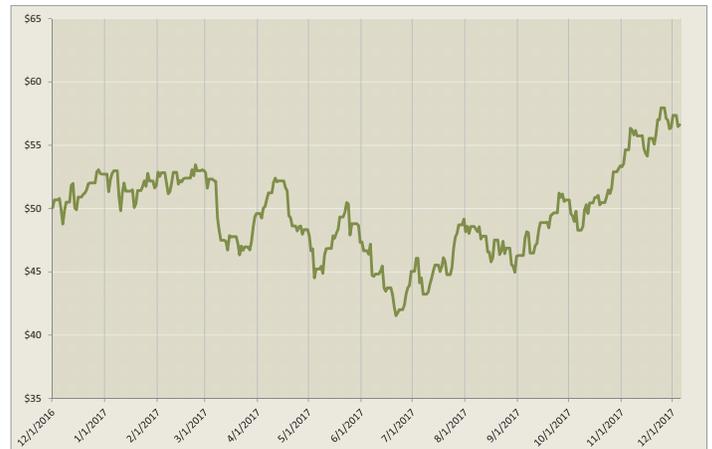
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Pennsylvania Rig Count



Penn Grade Crude Oil Prices



Natural Gas Futures Closing Prices

Month	Price
January 2018	\$2.785
February	2.803
March	2.782
April	2.715
May	2.726
June	2.761
July	2.800
August	2.795
September	2.775
October	2.811
November	2.867
December	3.009

Prices as of December 7

Sources

American Refining Group: www.amref.com/Crude-Prices-New.aspx
 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-reportsoter
 NYMEX strip chart: Emkey Energy LLC, emkeyenergy.com

Northeast Pricing Report – December 2017

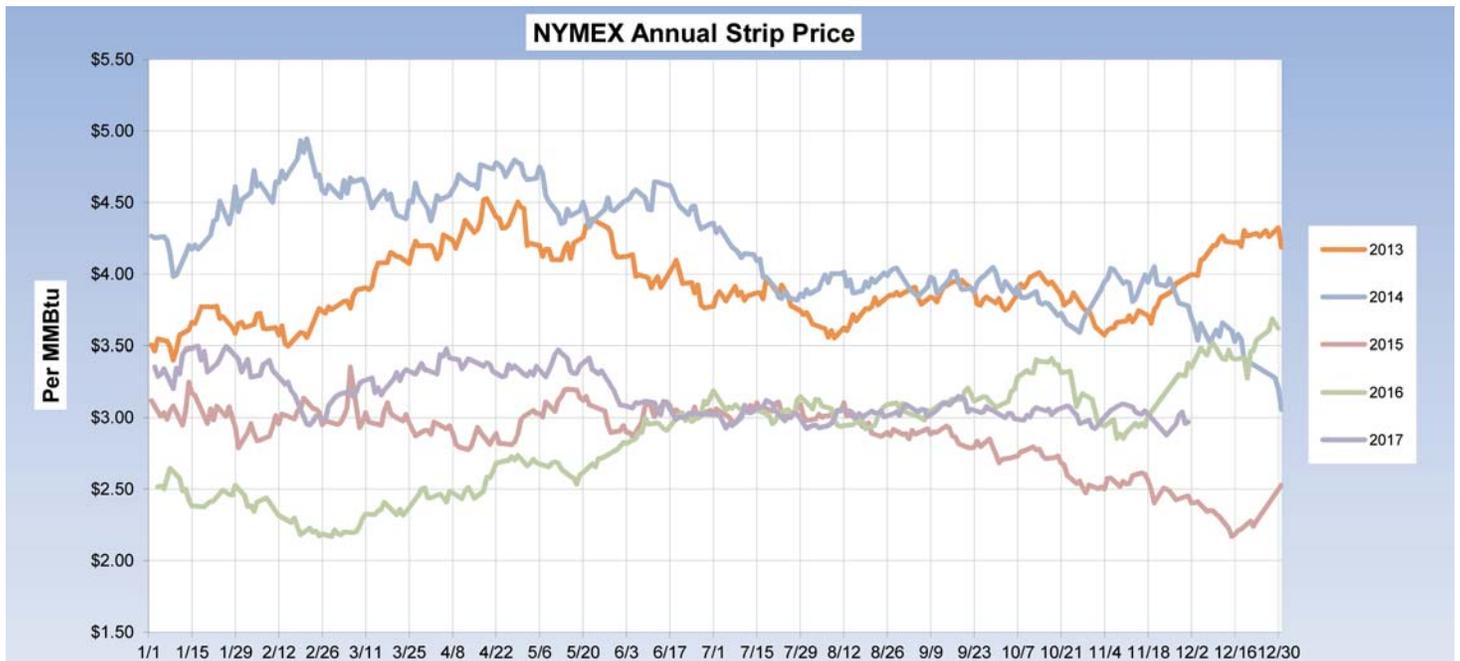
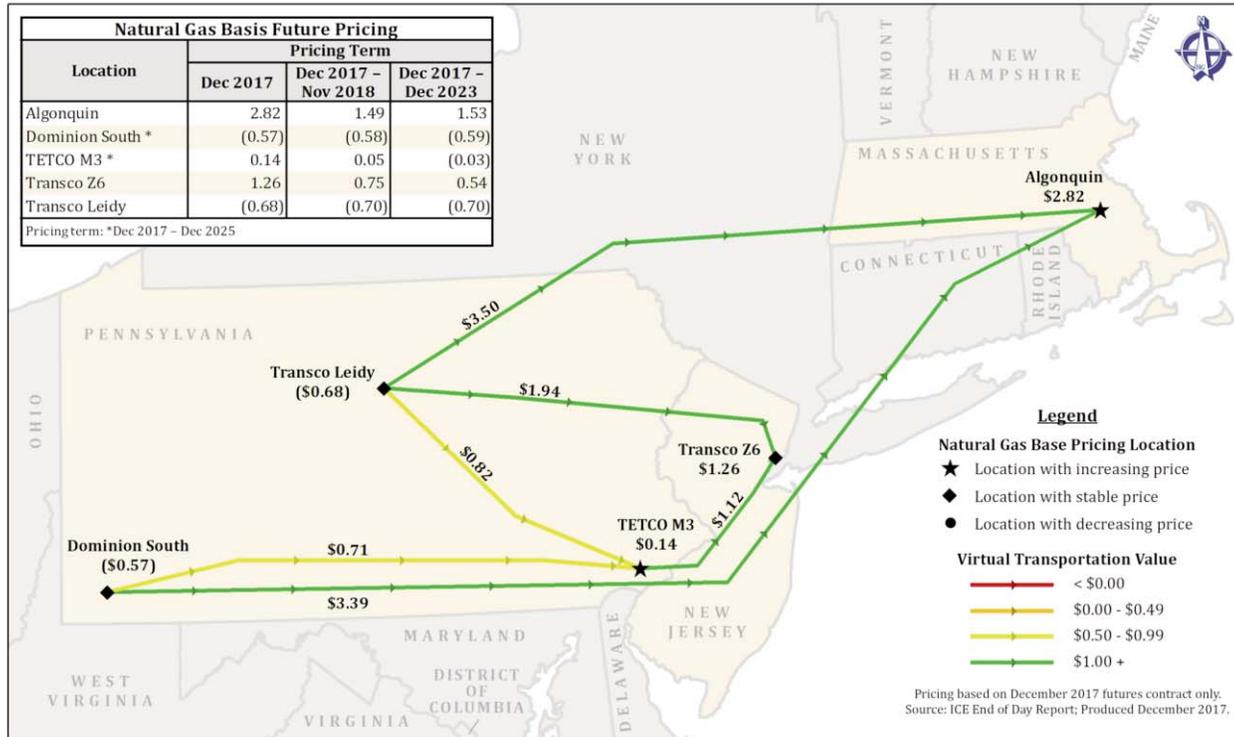
Front month pricing for all trading points increased from November. Algonquin, Transco Z6 and TETCOM M3 had the greatest increases. Algonquin had the greatest increase at \$2.89 per MMBtu. Transco Z6 and TETCO M3 jumped \$1.40 and \$1.11 per MMBtu respectively. The one-year term pricing for each trading point increased as well. The increases ranged from \$0.29 per MMBtu for Algonquin, to \$0.03 per MMBtu for Dominion South. Long-term pricing changed little for all the trading points.

Transportation saw dramatic increases over November. Transportation from Leidy to Algonquin increased \$2.17 per MMBtu to a total value of \$3.50 per MMBtu. Dominion South to Algonquin increased \$2.27 per MMBtu to a total value of \$3.39 per MMBtu. All other transportation routes had increases that ranged from \$0.29 to \$0.69 per MMBtu.

Colder air has begun invading most of the country. While temperatures have dropped to more seasonal ranges, Northeast pricing and transportation values seem to have overreacted.



Provided by Bertison-George, LLC • www.bertison-george.com



Spud Report: November



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

OPERATOR	WELLS	SPUD	API #	COUNTY	MUNICIPALITY
ARD Operating LLC	1	11/20/17	081-21707*	Lycoming	Cascade Twp
Bull Run Energy LLC	1	11/1/17	083-56932	McKean	Keating Twp
Cabot Oil & Gas Corp	8	11/11/17	115-22357*	Susquehanna	Harford Twp
		11/11/17	115-22358*	Susquehanna	Harford Twp
		11/11/17	115-22359*	Susquehanna	Harford Twp
		11/11/17	115-22360*	Susquehanna	Harford Twp
		11/26/17	115-22349*	Susquehanna	Lathrop Twp
		11/26/17	115-22350*	Susquehanna	Lathrop Twp
Cameron Energy Co	2	11/8/17	123-48083	Warren	Sheffield Twp
		11/29/17	123-48082	Warren	Sheffield Twp
		11/13/17	113-20380*	Sullivan	Elkland Twp
Chief Oil & Gas LLC	4	11/13/17	113-20381*	Sullivan	Elkland Twp
		11/13/17	113-20379*	Sullivan	Elkland Twp
		11/13/17	113-20382*	Sullivan	Elkland Twp
CNX Gas Co LLC	3	11/3/17	125-28369*	Washington	East Finley Twp
		11/3/17	125-28361*	Washington	East Finley Twp
		11/3/17	125-28362*	Washington	East Finley Twp
EQT Production Co	7	11/15/17	003-22474*	Allegheny	Forward Twp
		11/15/17	003-22434*	Allegheny	Forward Twp
		11/15/17	003-22470*	Allegheny	Forward Twp
		11/15/17	003-22471*	Allegheny	Forward Twp
		11/15/17	003-22475*	Allegheny	Forward Twp
		11/15/17	003-22473*	Allegheny	Forward Twp
		11/15/17	003-22472*	Allegheny	Forward Twp

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

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	
Gas & Oil Mgmt Assoc Inc	3	11/1/17	123-48094	Warren	Mead Twp	
		11/8/17	123-48093	Warren	Mead Twp	
		11/20/17	123-48079	Warren	Mead Twp	
JKLM Energy LLC	4	11/27/17	105-21901*	Potter	Ulysses Twp	
		11/27/17	105-21903*	Potter	Ulysses Twp	
		11/28/17	105-21902*	Potter	Ulysses Twp	
		11/29/17	105-21907*	Potter	Ulysses Twp	
		11/9/17	007-20508*	Beaver	New Sewickley Twp	
PennEnergy Resources LLC	12	11/9/17	007-20509*	Beaver	New Sewickley Twp	
		11/9/17	007-20510*	Beaver	New Sewickley Twp	
		11/9/17	007-20511*	Beaver	New Sewickley Twp	
		11/10/17	007-20512*	Beaver	New Sewickley Twp	
		11/10/17	007-20526*	Beaver	New Sewickley Twp	
		11/7/17	019-22678*	Butler	Winfield Twp	
		11/7/17	019-22633*	Butler	Winfield Twp	
		11/7/17	019-22634*	Butler	Winfield Twp	
		11/8/17	019-22680*	Butler	Winfield Twp	
		11/8/17	019-22636*	Butler	Winfield Twp	
Pennhills Resources LLC	2	11/1/17	083-56946	McKean	Wetmore Twp	
		11/7/17	083-56945	McKean	Wetmore Twp	
	Range Resources Appalachia	17	11/29/17	003-22459*	Allegheny	Indiana Twp
			11/29/17	003-22457*	Allegheny	Indiana Twp
			11/29/17	003-22458*	Allegheny	Indiana Twp
			11/29/17	003-22439*	Allegheny	Indiana Twp
			11/30/17	003-22442*	Allegheny	Indiana Twp
			11/30/17	003-22440*	Allegheny	Indiana Twp
			11/30/17	003-22441*	Allegheny	Indiana Twp
			11/21/17	125-28461*	Washington	N Strabane Twp
		11/21/17	125-28462*	Washington	N Strabane Twp	
		11/21/17	125-28463*	Washington	N Strabane Twp	
	11/22/17	125-28466*	Washington	N Strabane Twp		
	11/22/17	125-28464*	Washington	N Strabane Twp		
	11/24/17	125-28465*	Washington	N Strabane Twp		
	11/24/17	125-28467*	Washington	N Strabane Twp		
	11/2/17	125-28411*	Washington	Smith Twp		
	11/2/17	125-28413*	Washington	Smith Twp		
	11/2/17	125-28412*	Washington	Smith Twp		
Seneca Resources Corp	9	11/3/17	047-25005*	Elk	Horton Twp	
		11/28/17	047-24992*	Elk	Jones Twp	
		11/28/17	047-25000*	Elk	Jones Twp	
		11/28/17	047-25006*	Elk	Jones Twp	
		11/28/17	047-24998*	Elk	Jones Twp	
		11/28/17	047-24999*	Elk	Jones Twp	
		11/28/17	047-25001*	Elk	Jones Twp	
		11/28/17	047-25002*	Elk	Jones Twp	
		11/28/17	047-25003*	Elk	Jones Twp	
		11/28/17	083-56949	McKean	Wetmore Twp	
SV ABS Interest Wetmore Proj	1	11/29/17	015-23380*	Bradford	Stevens Twp	
SWN Production Co LLC	2	11/30/17	015-23287*	Bradford	Stevens Twp	
		11/13/17	019-22645*	Butler	Butler Twp	
XTO Energy Inc	3	11/13/17	019-22646*	Butler	Butler Twp	
		11/24/17	019-22694*	Butler	Jefferson Twp	

	November	October	September	August	July	June
Total wells	79	114	84	66	83	84
Unconventional Gas	70	91	78	58	72	67
Conventional Gas	0	0	1	0	0	0
Oil	9	23	5	8	10	16
Combination Oil/Gas	0	0	0	0	1	1



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Calendar of Events

PIOGA Events

Info: www.pioga.org/events

PIOGATech: Risk Assessment/Compliance

December 14, The Chadwick, Wexford

Holiday Mixer

December 14, The Chadwick, Wexford

Spring Meeting

March 21, 2018, Rivers Casino, Pittsburgh

Ted Cranmer Memorial Golf Outing & Steak Fry

June 4, 2018, Wanango Golf Club, Reno

21st Annual Divot Diggers Golf Outing

August 23, 2018, Tam O'Shanter Golf Club, Hermitage

Fall Oktoberfest and Annual Meeting

October 17-18, 2018, Seven Springs Resort, Champion

Industry events

IOGAWV Winter Meeting

January 23-24, 2018, Marriott Town Center Hotel, Charleston

Info: iogawv.com

OOGA Winter Meeting

March 7-9, 2018, Hilton Columbus at Easton, Columbus, OH

Info: www.ooga.org

IPAA Midyear Meeting

June 25-27, Austin, TX

Info: www.ipaa.org/events

Seeking doctoral study participants

I am looking for any manager from either a coal or petroleum company that produces any product and provides any service (no matter how small). They need to have knowledge of service-based innovation strategies that made their company successful in providing services. Potential participants should be the following:

- Manager at coal or petroleum business who offered services.
- Sustained business for at least five years.
- Business must be operating in Mid-Atlantic region of U.S.

(Delaware, Maryland, New Jersey, Pennsylvania, Virginia or West Virginia).

• Be willing to potentially volunteer 2 hours to 2 hours, 15 minutes to participate in my doctoral study research.

• Identify what medium and order of preference they feel comfortable participating in an interview (face-to-face, Skype or Face Time or telephone). The interview will be audio recorded and the participant will remain anonymous.

Some examples of famously successful businesses in other industries are: Apple (product: iPod, service: iTunes), IBM (product: servers/computers, service: IT services), Rolls Royce (product: jet engines, service: maintenance services), GE (product: complex healthcare devices, service: inspection, training and maintenance services) and ICI-Nobel (product: explosives for mines or quarries, services: blasting services).

Participants will receive a summary of the results of the doctoral study at the completion of the research. Participants will have the opportunity to discuss their experiences and perceptions and learn how their organization can be better prepared to address effective strategies that typically lead to successful sustainability of coal and petroleum companies through strategic service-innovations. Feedback along with those of other coal and petroleum company managers could improve the sustainability of coal and petroleum businesses and could contribute to enhancing the economy and community.

—Zebulon Fox (508-685-8389 or zebulon.fox@waldenu.edu)

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115 VIP Drive, Suite 210, Wexford, PA 15090-7906
 724-933-7306 • fax 724-933-7310 • www.pioga.org

Harrisburg Office (Kevin Moody)

212 Locust Street, Suite 300, Harrisburg, PA 17101
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