MINUTES
CITIZENS ADVISORY COUNCIL MEETING
June 21, 2016

CITIZENS ADVISORY COUNCIL (CAC) MEMBERS PRESENT:
Cynthia Carrow, Allegheny County
Mark Caskey, Washington County
Terry Dayton, Greene County
William Fink, Bedford County
Jim Sandoe, Lancaster County
Thaddeus Stevens, Tioga County
Burt Waite, Crawford County
Donald Welsh, Chester County
Jim Welty, Cumberland County
Timothy Weston, Cumberland County
John Hines, Lebanon County
John Over, Fayette County
Joi Spraggins, Philadelphia County
Walter Heine, Cumberland County

CITIZENS ADVISORY COUNCIL STAFF PRESENT:
Katherine Hetherington Cunfer, Acting Executive Director

CALL TO ORDER:
Chairman Fink called the meeting to order at 10:00 a.m. in Room 105 of the Rachel Carson State Office Building, 400 Market Street, Harrisburg, PA, with a quorum. The meeting was also broadcast via WebEx for the public.

APPROVAL OF MAY 17, 2016 MEETING MINUTES:
Chairman Fink asked for a motion to approve the May 17, 2016 Council meeting Minutes.

> **Burt Waite moved to approve the May 17, 2016 meeting Minutes.**
> **Tim Weston seconded the motion, which was unanimously approved by Council.**

PUBLIC COMMENT
Katie Hetherington Cunfer read a letter aloud that had been received from Edward and Darlene Orr concerning a stray gas issue, as well as a transformer issue. The letter was directed to the PUC.

> "Dear Chair Brown and Commissioners Witmer, Place, Powelson, and Coleman:
>
> "We represent Edward and Darlene Orr. According to Mr. and Mrs. Orr, there is a safety hazard, a malfunctioning transformer located nearby a gas field at 110 Woodbridge Drive, McDonald, PA. Reportedly, this transformer has caught the trees on fire and burned down half an acre of woods, electrified the ground, singed the grass, and

electrically shocked two people, ignited stray gas nearby, and burned down cable company equipment. We are advised that the West Penn Power Company, the owner and operator of the transformer, has been told of these specific safety concerns. Darryl Lawrence, an attorney and consumer advocate for the Commonwealth, has written to West Penn Power requesting that various safety measures be implemented relative to this transformer. A copy of this communication is attached as Exhibit A. The situation identified by Attorney Lawrence has been exacerbated by the more recent discovery of stray gas methane on the same site as the transformer. There are at least 40 oil and gas wells in very close proximity to this transformer, meaning that stray methane gas comes up from the soil and ignites. Despite these dangers, West Penn Power has reportedly failed to remedy this problem. Seven nearby families may be at risk as a result of this transformer. West Penn Power reportedly unilaterally terminated service this week and without notice to the family at 110 Woodbridge Drive. A resident in that home is said to be in a wheelchair and requires access to special medication and spinal cord injury therapeutic equipment, and terminating power to a single residence does not protect the six other residences serviced by the defective transformer. I ask you to investigate and address this situation and, if warranted, direct West Penn Power to properly remediate this transformer.

Respectfully,

Shannon Spector
Kline & Specter, PC
Attorneys at Law
1525 Locust Street
Philadelphia, PA"

Darlene Orr read a letter from Attorney Lawrence directed to West Penn:

"On more than one occasion in the past, I have discussed with one or both of you the OCA's position as to what repairs or replacements were needed in order to rectify the leading issue that the Orrs have been experiencing with their electric service. To restate those recommendations here - replace the transformer, replace the service line to the house, replace the meter assembly, replace the meter socket surge protector arrester, then, before reconnecting, perform extensive tests on the high voltage lines coming into the neighborhood. There comes a time when one must simply stop replacing equipment. After independently confirming the repeat failures of appliances and equipment within the Orrs' home, through direct conversations with service technicians who repaired or replaced those items, and now repeat failures to Comcast equipment that is situated completely outside of the Orrs' home, through direct contact and discussion with the supervisor at Comcast, the OCA believes the time has come for First Energy to act. I will not belabor the five points above. My primary objective in writing this letter to you at this time is because I truly believe there is a risk of serious personal injury if this situation is not rectified with all due speed.

I look forward to your swift resolution of this matter. I would be happy to further discuss this matter with you or anyone else at First Energy."

The letter is signed by Darryl Lawrence, Pennsylvania Office of Consumer Advocate.

Edward Orr stated that in December of 2012, Kline & Specter won a $109 million jury verdict in *Goretska v. West Penn Power.* That particular case involved a death. The issue of stray gas has been amply studied by the PUC and/or by DEP and by its various and sundry departments. The issue of stray gas is extremely complex. Stray gas has often been mischaracterized and/or misunderstood by governmental bodies, resulting in a plethora of misunderstandings and deaths. More than once regulatory and governmental bodies have mischaracterized the occurrence of stray gas as either bogus or nonexistent, only to find that the situation was a bonafide risk and had been sorely overlooked. The *Goretska* case did not involve stray gas, per se. It did involve oversight by the agencies with regard to repeated risks and dangers. The Orr situation has occurred with regard to various electrical problems, gas problems, and so forth that have been reported to the PUC and DEP. Members of DEP have gone to the Orr dwelling on various occasions, taken cursory measurements, and wrote off stray gas as nonexistent if nothing was found while they were there.

Within 195 feet of the house, there is a confluence of three or four different things: an abandoned oil well, a high tension tower with about 130,000 volts, a transformer in the yard itself, and, according to a message received from the federal government, an abandoned mine. Within 195 feet of the house, there has been a mine fire. There is an abandoned oil and gas well. There are about 40 oil and gas wells that have actually been mapped within 5,000 feet. The unmapped oil and gas wells that are mostly abandoned are estimated to be about 15-1 for every one that has been mapped, so there could be up to about 600 abandoned oil and gas wells within about 5,000 feet. Out of the 40 mapped wells, actually about a dozen of those are still active. The problem is there are shafts coming from the abandoned mine itself that go all the way up to the basement drain in the house and also a couple of places in the woods. There is actually gas emanating from those, coming up through the basement drain. It has been measured by third parties and there has actually been smoke and flames in various places. Duquesne University conducted a study, finding stray methane and also ethane in the water itself and also it is in the neighbors' water. With the amount of stray gas, sometimes there is not enough oxygen in the house.

Edward Orr expressed his appreciation for the Committee's time and asked for referrals to anyone else who might be of assistance to his family.

DEP REPORT

Acting Secretary Patrick McDonnell stated that it was an honor and a pleasure to address the CAC. He has a history with the CAC, going back to literally his first exposure to the Department which was in September of 1997 when he was a Pennsylvania Management intern and was assigned to his second rotation with the Citizens Advisory Council.

Providing a staff update, the Acting Secretary noted that Joe Adams is the new Southcentral Regional Director. Joe came out of the oil and gas program in central office. The Department

has a new Policy Director, Jessica Shirley. Jessica has been with the Department for a number of years in the Policy Office. In addition, the Department will be saying goodbye to Joyce Epps, long-time Director of the Bureau of Air Quality. Joyce will be retiring at the end of June. She started with the Department back in 1989 and has spent many, many years as the Director of the Bureau of Air Quality.

The Commonwealth has been working with Royal Dutch Shell for four years to finalize plans to build an ethane cracker plant in the southwest region. Governor Corbett and Governor Wolf both worked hard on this project. Earlier this month, Shell announced that it will move ahead with the facility, creating thousands of jobs in Pennsylvania. This plant will be a significant economic driver for the state. It comes as a result of Governor Wolfe's work to develop strategies for safe pipeline development that transports resources to markets and facilities. The Department will continue to work with Shell on the project.

With regard to the Chesapeake Bay Reboot, the Department has released a Standard Operating Procedure document for the conservation districts. Seeing in writing what the folks are being asked to do has been helpful. In addition, there is at least one conservation district that has started doing the work and has found, in their words, that it is easier than they thought it was going to be. Training events will be held on the MS4 program. The initial training event is designed to help potential permittees prepare their next application, and then the next training event will be to help permittees develop pollutant reduction and TMDL plans. A program evaluation was recently released by the EPA. There was nothing surprising. Pennsylvania continues to lag behind on nitrogen, but the Department is very focused on that. DEP is in the Bay Reboot strategy for the long haul. There are 2017 milestones, but there are also ultimately 2025 milestones.

DEP is working with the Department of Agriculture, the State Conservation Commission, the EPA, and others on the Clean Power Plan. A bill has worked its way through the legislature amending some of the Act 175 requirements, which basically gives the legislature oversight of the approval of the final plan that DEP would submit to the EPA. Additionally, it included a 180-day period of time for the legislature to review the documents.

With regard to Chapter 78 and 78A, there is a bill that would basically force the Department to start over on the conventional side, the Chapter 78 side, while allowing 78A, the unconventional side, to stand. That bill is going through, so the Department will be re-engaging with industry, the legislature, and stakeholders on the process going forward. One element of that which has received less attention is the fact that it creates a new advisory board within DCED to deal with conventional oil and gas issues. The Department will be engaging with DCED through the process. The Chapter 78 side will effectively immediately be done away with and then the Department will move forward with 78A.

Acting Secretary McDonnell noted the 45th anniversary of the CAC, which was created along with the Department of Environmental Resources on December 3, 1970, with the signing of Act 275. On behalf of the staff of DEP, Acting Secretary McDonnell thanked the council members who are currently serving, as well as all past members who have given their time and talents to help the agency meet its mission.

PRESENTATION BY MIKE LANGLAND, HYDROLOGIST, USGS, ON NITROGEN, PHOSPHORUS, AND SUSPENDED-SEDIMENT LOADS AND TRENDS MEASURED AT THE CHESAPEAKE BAY NONTIDAL NETWORK STATIONS: PA EMPHASIS

The USGS is the lead agency in monitoring loads and trends across the entire nontidal monitoring network for the Chesapeake Bay. The water quality monitoring partners involve all six states, river basin commissions, and other agencies.

The nontidal monitoring network was built to answer many questions, focusing on two: how are the nutrients and suspended-sediment loads responding to restoration activities and changing land uses in the watershed and what are the trends in nitrogen, phosphorus, and suspended-sediment loads being delivered to the Chesapeake Bay from the nontidal portions. Monitoring data is the foundation used to explain water quality trends, document water quality improvements, and response to management actions that are being put on the landscape. Important milestones include the midpoint assessment in 2017 where the reallocations will be reevaluated and then goals will be refined for 2025. A progress run will be done every two years to update the BMPs and the management actions that are in place. This information will give each state an idea where it is in terms of meeting its goals. Each state will then use that information to develop and refine its Watershed Implementation Plans (WIPs). All of this information then is used in the models to move progress toward meeting the Chesapeake Bay's TMDLs. Monitoring data is also helpful in verifying calibration and improving the model simulations to make sure that the models are representing what is really going on. All of the results, the datasets, and the figures are on the USGS nontidal webpage at https://cbrim.er.usgs.gov. The website is dedicated to providing water quality load and trend results for the nontidal rivers of the Chesapeake Bay watershed.

The purpose of the network has really always been the same: to collect water quality samples and use consistent methodology. When comparing total nitrogens across states and across river basins, consistency is important. The lab analysis and collection process should be close to the same, otherwise bias is introduced in the sampling. Water quality samples should be collected across the full range of conditions. The objective of the Chesapeake Bay nontidal monitoring program is to quantify nutrient and sediment loads in the nontidal rivers of the Chesapeake Bay watershed. The loads are defined as the mass nutrient or sediment passing a monitored location per unit time. Additionally, the monitoring program estimates trends over time in sediment and nutrient loads in a manner that compensates for any concurrent trend in stream discharge. Trends estimated in this manner can indicate changes in the watershed, such as the effects of best management practices that cannot be attributed primarily to climatic fluctuation. Monitoring data is collected by numerous agencies through the nontidal monitoring partnership. Results are updated on even-numbered water years for the network of water-quality monitoring stations distributed throughout the Chesapeake Bay watershed. There are 117 monitoring stations from New York to southern Virginia. Thirty sites now have records greater than 30 years; 81 sites with greater than 10 years, six sites with 5-10 years, and then several recently added sites with less than five years. In Pennsylvania, there are 34 sites in the whole entire Susquehanna Basin, including New York and Conowingo.

Loads and trends are done because loads are a measure of the TMDL. Loads = concentration x the discharge. It reflects the actual changes in the nutrient and sediment inputs, with changing

stream flows. Divide that by the drainage area to come up with a way to compare site-to-site-to-site and that equals load per acre. Trends are done to analyze and look at the changes in land use, input sources, and BMPs. This is where ancillary data is extremely important. There is no point in doing a trend unless it can be related back to something that changed on the landscape. Ancillary data should always be improved. The USGS statistical package is used to estimate loads and trends. This is a newer technique developed by Bob Hirsch. It is called the WRTDS, which stands for Weighted Regressions Time, Discharge, and Season. This technique removes the effect of climate variability so that the effects of human-induced changes can be more easily identified. Loads, pounds per acre, are looked at as a way to compare one watershed to the next. Trends are directional change and total mass change. It is one thing to note movement up or down, but how much it has changed is really important. In Pennsylvania, the vast majority of trends are improving. Only one site is degrading and one site is showing no change. Looking at the Susquehanna Watershed, 13 sites are improving, three sites are degrading. There are several common factors why the sites are improving across the Chesapeake Bay watershed. Most improvements can be attributed to wastewater treatment plant upgrades, point source reductions, agricultural practices, land reversions, and less nitrogen in the rainfall due to the Clean Water Act. While the flow is going up, improvements are still greater than the population change at this point in time.

The sources of phosphorus are point sources, wastewater treatment plants. Non-point sources are agriculture, septic fields. Natural sources are rock types in the basin that are just naturally highly phosphorus. Just like nitrogen, the highest loads are in the lower part of the basin, which is tied to urbanization and agricultural activity. In the Bay Watershed, almost three-quarters of the trends are improving, one-fifth are degrading, and one in five are no trend. In Pennsylvania, it is the same thing as nitrogen. The vast majority, 13, are improving. Two sites are degrading; one no change. Some of the improvements can be pointed back to point source upgrades, some agricultural practices, land conversions, and then construction activities which actually hold sediment and phosphorus.

For suspended sediment, Pennsylvania is very similar to the rest of the watershed. About half of the sites are improving, a third are degrading, and one-fifth show no change. Sediment is a difficult parameter on which to do trends because it is so variable. It is difficult to pick up trends in sediment. In Pennsylvania, the results are mixed due to the variability in the sediments.

To determine the trends in the nitrogen, phosphorus, and suspended-sediment loads being delivered to the bay from the nontidal portions of the watershed, one must look at the loads delivered from the nine River Input Monitoring (RIM) stations. These are the most downstream sites in the major basins, Susquehanna, Potomac, James. Inputs into the Chesapeake Bay must be monitored. Reductions in the Chesapeake Bay mean that upstream watersheds are improving. Looking at the numbers, most of the reductions took place in the early part of the record and now basically the improvement is flat, especially in the past 10 years. Not much change has been seen in the total load going to the Bay. The big question is why. One of the answers is ag companies. When a practice is put out on the landscape, it is not an instantaneous reduction. It takes time to work. Half of the water that goes to the Chesapeake Bay and most of the watershed on average is ground water. When practices are put in place that effect only surface water, only

half of the water is being affected. Another consideration is the density and the intensity of the BMPs that are going on the landscape.

Upgrades to wastewater treatment plants, reductions in air emissions, and some agricultural practices are working. Some challenges for the future are response times, continued development, and intensified agriculture. Some areas in the basin would show offset if not for the continued population growth. More reductions will be needed. The easy work on the point sources and regulatory side has been done. Those reductions have been put in place. Reductions on the nonpoint side will have to be done in order to reach the goals. Restoration efforts at high loading areas, urban storm water, and better ancillary data to explain trends will have to be targeted in the future.

PRESENTATION BY RODNEY KIME, ENVIRONMENTAL PROGRAM MANAGER, DIVISION OF WATER QUALITY STANDARDS, BUREAU OF CLEAN WATER

Rodney Kime gave a presentation on the Triennial Review of Water Quality Standards TR17 Updated Scope and Recommendations. This was presented to the Water Resources Advisory Committee back in March and is still being reviewed internally.

The Department is required to review, revise, and update, as needed, at least every three years, water quality criteria and standards found in 25 Pa. Code Chapters 93 and 16 and portions of 92a to reflect the latest scientific information and new federal guidelines for criteria development and other implementation guidance.

The EPA has issued, since the last triennial review, new or updated ambient water quality criteria. The development documents for these two criteria are available on the EPA's website. The first one is the revised ammonia criteria that is based on new studies that include sensitive freshwater mussels which have become an issue in recent years. They also recommended new recreation use criteria, including E-coli as the indicator.

The EPA issued final updates to its national recommended water quality criteria for human health protection for 94 chemical pollutants in June 2015. This reflects the latest scientific information and EPA policies, including updated body weight and fish and water consumption rates described in the EPA's report.

Based on the EPA-approved toxicity tests and tests done on sensitive native mayflies by Stroud Water Research Center, chloride aquatic life criteria is recommended.

DEP will provide clarification on the use of Biotic Ligand Model (BLM) for development of site specific water quality criteria for copper.

For clarification and update for Great Lakes water quality criteria, recommend defaulting to statewide criteria (Table 5) if none is available in the Great Lakes table (Table 6).

With regard to interstate/international water quality criteria, language was changed in the drainage list about application of water quality standards established under interstate compacts. This basically applies to DRBC, ORSANCO, and the Great Lakes. It says that when there is

state criteria and a compact criteria, the same compound substance, DEP will default to the more stringent of the two unless there is an exception listed on the drainage lists.

The Department reaffirmed that we have existing exclusions of the "fishable/swimmable" use for portions of the Delaware River and the Lake Erie basins.

There will be updates, revisions, and corrections for typos, translation errors, and missed references associated with the prior rulemaking and/or publication activities and updates, revisions, and corrections to use designations and stream entries in the Drainage Lists and some reformatting of the Drainage Lists to make them more compact and more readable.

When changes were made to Chapter 93, changes were also made to Chapter 16 (which is the companion to Chapter 93) to make them compatible. References will be corrected and updates will be provided to methodology protocols.

The major change is to Table 1A which lists the site-specific criteria. An online listing was created of site-specific criteria. There are tables in Chapter 16 with the approved DEP analytical and detection limits, but they are actually redundant because the EPA maintains those on their website. It will be easier to manage and implement and it eliminates potential problems by referencing the EPA and deleting Tables 2A, 2B, and 3 in Chapter 93. The DEP accredited analytic methods will stay in Chapter 93 since they will not be on the EPA website.

Rodney Kime continued with a presentation on the Triennial Review of Water Quality Standards TR17 Updates to Chloride Criteria. This was also presented to the Water Resources Advisory Committee back in March.

Pennsylvania's existing criterion was developed primarily for the protection of potable water supplies. The chloride criterion is not applied in all waters of this Commonwealth. It is applied only at the point of water supply intake. The current chloride criteria is 250 milligrams of chloride per liter of water, but it is applied only at a water supply intake. It is not applied to other waters. There is a need for aquatic life use protection because the toxicity testing shows that aquatic organisms found in Commonwealth waters are being negatively impacted by current chloride concentrations. An aquatic life use criteria must be applied statewide and not just at potable water supply intakes. Ion composition can affect the toxicity of chloride. Major cations are calcium, magnesium, potassium, and sodium, and the anions are bicarbonate, sulfate, and chlorom. Pennsylvania waters are calcium/bicarbonate dominate, which means most of the toxicity testing that is done is using calcium/bicarbonate waters. Different compounds of chloride can have different toxicity, with potassium chloride the most toxic, followed by magnesium chloride, calcium chloride, and sodium chloride. Sodium chloride is the least toxic to apply to organisms and sodium chloride was the test substance used to deliver chloride in all the toxicity tests that were conducted. The major source of chloride in Pennsylvania waters is sodium chloride.

EPA and Chapter 93 criteria development methodologies were used to derive acute and chronic chloride criteria. The data used was from approved US EPA chloride toxicity datasets and the

results of the Stroud mayfly toxicity tests. Our Pennsylvania mayflies are fairly sensitive to chlorides.

Acute values were used from all acceptable data. This resulted in 219 acute toxicity results for 51 genera aquatic species. Based on the lethal concentrations (LC50) or effect concentrations (EC50), the four genera most sensitive were the wavy-rayed lamp mussel, the mayfly, the fingernail clam, and a mussel. The Northern Riffleshell mussel, which is an endangered species, was the most sensitive to chlorides. The genus mean acute value was 698 mg/L. The chronic toxicity test included 10 aquatic species; two fish, several daphnia worms, and the three sensitive mayflies that were used in the Stroud Research toxicity testing. The four most sensitive species in the chronic test were the daphnia and the three Pennsylvania mayflies. The species most sensitive was a mayfly at 153 mg/L. Once again, this is a mayfly found in Pennsylvania. 349 is the acute criteria that was calculated; 113 is the chronic. The EPA determined that chloride toxicity is dependent on hardness and sulfate concentrations. Hardness is protective with chlorides, so the higher the hardness the higher the chloride can go before it is going to have an effect on an organism. Sulfate has the opposite effect. The higher it is, the more detrimental the effect.

PRESENTATION BY LINDSAY BYRON AND STEWART BEATTIE, DIVISION OF WELL PLUGG AND SUBSURFACE ACTIVITIES, BUREAU OF OIL AND GAS PLANNING AND PROGRAM MANAGEMENT

The first commercial oil well was drilled in Titusville, Pennsylvania in 1859. Twenty years later wells were first required to be plugged by Pennsylvania regulations. The standards at that time were to plug wells with wood and sediment or anything an operator could find to stuff down the well, including pine plugs, sacks of oats and grains, rocks, and sediment. The standards changed a little over the years, but it was not until 1956 that wells were required by regulation to be plugged using water and more modern standards using cement. Even with that, the plugging requirements were more in the interest of protecting the oil and gas resource from contamination from other fluids like groundwater than protecting the environment. In 1984, modern plugging requirements under the Oil & Gas Act required that wells be plugged by environmentally-minded standards. DEP plugged its first well in the well plugging program in 1989. For historical purposes, in 1881 the purpose of the standard was to exclude all fresh water from the oil-bearing rock, therefore, protecting the resource rather than the environment.

Today there are hundreds of thousands of abandoned or orphaned legacy wells and wells plugged under inadequate standards of the past across Pennsylvania. There are tens of thousands of wells for which there are records, but no coordinates. By some estimates, there are approximately 200,000 legacy wells for which there are no records. Nearly 100 years of development with minimal or no permitting requirements led to the situation where there are hundreds of thousands of unaccounted for wells in the state. The purpose of DEP's study is to inspect a representative sample of abandoned, orphaned, and plugged wells and assess the integrity of those wells. DEP is looking for insight into what environmental hazards these wells might pose, including greenhouse gas emissions and discharge of fluids to surface water or the land surface. The Department is also trying to quantify the agency's plugging liability. Ultimately when these wells are abandoned and no responsible party can be located, the responsibility falls on the agency to plug them. The Department is hoping to make changes to the plugging regulations and

also, as a side note, better understand the database accuracy issues related to coordinate data for these wells.

Eight counties were selected in northwest and southwest Pennsylvania, including Warren, McKean, Venango, Armstrong, Indiana, Allegheny, Washington, and Greene. Those counties were selected based on the variety of wells in the counties and also the density. In the northwest, the Department is looking at wells located on public lands because of ease of access. In the southwest, since there are fewer public lands, the Department will also be looking at wells on privately-owned lands to increase the sample size. Well types being considered are oil, gas, combination oil and gas wells, and wells of an undetermined type. Storage gas wells, injection wells, coal wells, or ethane wells will not be looked at in this study.

Data cleanup was required before selecting our final population. That involved comparing a databased maintained by DCNR (WIS) and one which is maintained by DEP (eFACTS). Wells with locational discrepancies greater than 50 feet were removed from the study because of difficulty locating them without accurate coordinates. The population was also narrowed down to wells that were within ¼ mile of roads and generally on a hill grade of less than 10%.

Out of the narrowed down population of wells, a sample size was selected in an attempt to balance statistical significance with available resources. In the northwest, 114 wells were included in the study. In the southwest, 94 wells. Field observations include methane concentration readings, flow rates of gases, oil and brine discharges from the wells, and coordinates.

Preliminary results are in for Armstrong, Greene, Indiana, and Venango counties. In Armstrong County, 13 wells were selected; nine abandoned or orphaned and four plugged. So far a total of three wells have been inspected. All of them were either abandoned or orphaned. Upon inspection, one of them was found to be plugged. Positive identification was made of all three wells. Two wells were searched for, but were unable to be located. As of June 15, 2016, eight wells have not yet been visited. So far in Armstrong County there were no discharges of oil, gas, or brine detected from the wells.

In Greene County, 14 wells were selected for the study; five abandoned or orphaned and nine plugged. The total number of wells inspected so far is six, all of them plugged. Those six well were positively identified. As of June 15, 2016, eight wells have not yet been visited. No discharges of oil, gas, or brine were detected from the wells.

In Indiana County, 13 wells were selected for the study; six abandoned or orphaned and seven plugged. One of those wells was actually returned to production before commencement of field activities, so it was removed from the study. The total number of wells inspected so far is 11. Two plugged wells could not be located. Four of the 11 wells had a measurable concentration of combustible gas ranging from 43% LEL to 100% gas. The LEL is the Low Risk Explosive limit, and this would be about 2% by volume. One of the wells was plugged; three are abandoned. Two of those wells had a measurable flow ranging from 1.8 cubic feet per day to 1456 cubic feet per day. A producing conventional well, on average, would produce about 13 million cubic feet per day. One of those wells with a measureable flow rate was plugged and one was abandoned.

One orphaned well was found which was discharging water to a wetland area with no apparent impact to vegetation from that well.

In Venango County, 26 wells were selected; all of them being abandoned or orphaned. Of those wells, 13 have been inspected so far. Ten of those have been positively identified. Positive confirmation could not be made on three of the wells. A hole in the ground was found, but no casing. Four wells could not be located. Nine of the wells have been inspected. No discharges of gas, oil, or brine were found.

There are hundreds of thousands of legacy wells that are potential sources of environmental impact. The study aims to provide insight into methane emissions from plugged, abandoned, and orphaned wells, assist in identifying any needed changes in regulations, quantify the agency's plugging liability, and make an argument for equipment for our inspectors.

Preliminary results show a contrast in the type of wells. In the southwest, there is a greater density of legacy gas wells. The wells were located and identified with relative ease. Gas emissions and water discharges have been noted. In the northwest, there is a greater density of legacy oil wells. Wells were difficult to locate because many of them do not have casing and the areas are densely vegetated. No discharges have been noted at this time. For this study, 41 wells have been studied; 167 to go.

CAC COMMITTEE REPORTS:

AGGREGATE ADVISORY BOARD

The Aggregate Advisory Board had recent regulatory, legislative, and technical committee meetings. There were no regular meetings. The Board is still adamantly opposed to the current fee proposals. The Aggregate folks were very focused on the structure of the program, what they see to be inefficiencies in the program. The meeting was fairly contentious. The right personnel were not in the room to discuss important topics that industry wanted to address because industry had not advised what it was they wanted to talk about until five minutes before the meeting. There have been communications between staff and the liaison for that committee to try to make sure that there is an agenda in advance so the right people can be in the room.

The Aggregate Advisory Committee is having a field trip on August 3rd to the Pleasant Gap Quarry.

MRAB COMMITTEE

There was heavy discussion in the MRAB regulatory, legislative, and technical committee meeting regarding fees. The big concern was there are some fees increases that are pretty disproportionate in terms of their current value, as well as the fact that the Mining and Reclamation Board does not have any representation from the underground mining folks. The members of that committee did not feel comfortable voting on something for which they did not have representation at the table. We are still waiting on an official proposal from that committee. There is a lot of misunderstanding about what the Department is trying to do in terms of covering the cost of implementing the program. The original proposal had been a graduated increase over the next six years, so every two years there would be an increase to the different fees. The

industry folks are not interested in that increase. Industry would like to do an increase for the next three years and then re-evaluate the program. After three years, the Department would then have to re-evaluate, it would take two more years to pass a regulation, which would add some additional time, and the Department is still again in the hole when it comes to the finances. That discussion is ongoing.

COUNCIL ELECTIONS

After discussion with the candidates, Cynthia Carrow made a motion on behalf of the Nominating Committee to nominate Don Welsh for the office of Vice Chair and Bill Fink for the office of Chair. No other candidates indicated their interest in serving. The motion was seconded by Tim Weston and was unanimously passed.

NEW BUSINESS

A detailed itinerary was handed out for the July 19th Lancaster Green Infrastructure Tour (MS4 and Chesapeake Bay program). The buses will be leaving Harrisburg at 9:00 AM. Commonwealth Media Services will be filming the trip. Members of the Council may be asked to give thoughts about the program. Reservations must be made by July 8.

CAC has five seats and two alternates on the EQB. EQB elections will be held at the September meeting. CAC members are Bill Fink, Don Welsh, Burt Waite, Cynthia Carrow, and John Walliser. Alternates are Terry Dayton and Jim Sandoe. Folks interested in coming off, going on, or changing status should advise Katie Hetherington Cunfer.

Council members were advised to contact Glenda Davidson about any travel reimbursement issues that may exist.

Tim Westin hopes to be able to provide a draft of new By-Laws at the September meeting. Conference calls can be set up to discuss the details.

ADJOURN:

With no further business, Chairman Bill Fink requested a motion for adjournment. Terry Dayton moved to adjourn the meeting, which was seconded by Joi Spraggins and all were in favor. The June 21, 2016 meeting of the CAC was adjourned at 1:00 PM.