PENNSYLVANIA COAL ALLIANCE

Testimony of
John Pippy, CEO
Pennsylvania Coal Alliance

Before the
PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S
CITIZENS ADVISORY COUNCIL
March 17, 2015

Regarding: Act 54

Pennsylvania Coal Alliance
212 N. 3rd Street, Suite 102
Harrisburg, PA 17101
717-233-7900
www.BetterwithCoal.com

INTRODUCTION

Good afternoon.

My name is John Pippy and I am CEO of the Pennsylvania Coal Alliance (PCA).

PCA is a trade organization representing Pennsylvania bituminous coal operators as well as other associated companies whose businesses rely on a thriving coal economy.

PCA's members produced 100 percent of the coal extracted by underground mining methods during the report's five-year assessment period. As such we have a strong interest in the Report's evaluation of the underground mining industry with respect to its obligations under Act 54 and its recommended actions.

PCA thanks the Council for this opportunity to provide its perspective on the Act 54 five-year report, which studied the effects of underground bituminous coal mining on surface structures, features and water resources for the 2008 to 2013 time period. While the authors of the report are to be commended for the voluminous nature of the study, we have a number of substantive concerns about the way certain data has been interpreted, the inconsistency of certain statements and the basis upon which a number of conclusions were made.

Before I address the technical aspects of my comments, there are two points that I want to briefly discuss:

1. The economic value of longwall or full extraction mining to the southwestern corner of the state and the critical role that mining in general plays in sustaining the strong work ethic and cultural heritage of this area.

2. The background and legislative intent of Act 54, specifically how the Pennsylvania legislature succeeded in balancing the legitimate rights and concerns of property owners with a need to promote the use of full extraction mining.

ECONOMIC IMPACTS

According to a recent study prepared by the Pennsylvania Economy League of Greater Pittsburgh that was commissioned by PCA, longwall mining, which is used only in Greene and Washington Counties, accounted for 58% (33.7 million tons) of Pennsylvania's total bituminous coal production in 2013. In terms of economic impacts, the study found that the longwall mining industry:

1. Created 7,367 direct and indirect jobs in the two counties, making the longwall mining industry the third largest employer in this area. These are jobs with well-paying family

sustaining wages. For example, the average annual salary for a Greene County miner totals around $85,000, twice the average wage for all other occupations in the county. These are the kind of jobs that Governor Wolf cited in his recent budget address – "jobs that pay" that are central to achieving his objective of improving Pennsylvania by "... rebuilding our middle class."

2. Contributed almost $2 billion to the counties' economy, $535 million in labor income alone. In fact, the longwall mining industry adds more than double to Greene and Washington Counties' economies than the next largest industry.

3. Provided more than $81 million in indirect business to tax revenue.

Frankly, the study reveals that mining has a rippling effect on these economies, touching everyone from construction workers to equipment manufacturers, truck drivers to barge operators, engineers to craftsmen, car dealers, restaurant workers and local grocery stores.

If mining is healthy, these communities are equally robust, but when mining struggles, so too does the region. They are inextricably linked.

GENESIS OF ACT 54

In order to assess the worth of Act 54, one needs to understand the legislative intent of the law.

Act 54 was as much about balancing the property rights of the mineral estate holder (in this case the coal owner) with those of the surface landowner as it was about addressing the environmental impacts of underground mining. To divorce these twin objectives would be to misstate the genesis of the law.

Pennsylvania law recognizes three discrete estates in land: the surface estate, the mineral estate and the right to subjacent (surface) support. Moreover, these estates are severable, and in relation to the same land, may be held by three different owners. Indeed, it is common for the surface and mineral estates to be split between different owners in Pennsylvania's bituminous underground coalfields.

Act 54 was intended to reconcile the interests of mineral rights owners and surface owners. These were primarily issues of competing private property interests where mine operators acquired subsurface rights to minerals, and surface owners acquired surface rights to their land. Both of these interests can be regulated and limited by the legislature in the public interest, but neither interest is compellingly superior to the other.

The legislature, in unanimously enacting Act 54, made a conscious public policy decision to balance these competing ownership interests more than they had been in the past.

Towards this end, Act 54 created a replacement and repair remedy for damage caused by subsidence under certain structures and features but within the strict parameters of prevailing federal and state laws/regulations and specific permit requirements. It should be noted that the remedies in Act 54 provided more for the property owner than corresponding federal standards and standards imposed by other coal-producing states.

While Act 54 did not create a blanket subsidence prevention standard, neither did it allow operators to undermine with impunity.

Therefore, in determining whether the Act's implementation is consistent with legislative intent, the report needs to evaluate industry's response to reported claims of subsidence damage to overlying structures, water loss and permanent impairment to the hydrologic balance. The questions that need to be asked in making such an evaluation is whether these claims are being responsibly resolved by operators, are impacts temporary and correctible, and are there any lasting adverse effects?

GENERAL CONCERNS WITH DATA

The PCA and our member companies have historically been proactive in providing data, both pre-mining and post-mining, and in aggressively correcting issues when discovered.

With that in mind, the University of Pittsburgh noted during their February presentation to the Citizen's Advisory Council that the 4th assessment period was the best assessment period since the inception of Act 54 because of the availability of data, yet in many circumstances it was noted throughout the report that the availability and quality of data often impacted conclusions made in the report. Moreover, during previous assessment periods, member companies of PCA were contacted and involved in meetings, field views, and other data-collecting scenarios whereas during the 4th assessment period we learned that there was minimal outreach. For future Act 54 five-year reports the PCA would like to respectfully request that our member companies, many of which have the data available to provide complete datasets that can lead to more accurate conclusions, be contacted to provide that data.

Operators agree with the researchers that the use of a limited database will not accurately reflect trends in either mining-induced flow loss or stream recovery. For example, possibly due to the lack of data made available to the researchers, this study did not make the correlation between the decrease in stream investigations from the third to the fourth review periods and industry's acquisition and development of mitigation techniques which were effective in addressing flow loss and material damage to stream beds.

The report offers a number of recommendations on enhancing our data gathering process through data standardization and electronic submission to create a more uniform, efficient and timely data reporting and interpretation system. PCA believes that these recommendations have merit and should be further reviewed and considered.

SCOPE

Perhaps the biggest flaw with this assessment report is its inability to properly frame the scope and frequency of subsidence damage occurring or not occurring to all structures and water supplies as a result of underground mining. By failing to compare the total number of structures and water supplies undermined during 2008 – 2013 with the numbers of reported damage claims to these features, one has no clear understanding of the actual surface impacts of underground mining.

This type of comparison was included in previous assessment reports. For example, during the third Act 54 five-year report, the authors identified 456 structures with reported damage claims out of a total 3,735 structures undermined. The frequency rate of subsidence damage occurring to land features at that time was only 12 percent. Likewise, for that same time period, the frequency rate for subsidence damage occurring to water supplies was 25 percent (683 cases with reported effects out of 2,789 wells, springs and ponds undermined). Thus, the bulk of these types of features undermined did not sustain subsidence-related impacts.

Within this framework of measurement the surface footprint of underground mining is more limited in both frequency and scope than the current report implies. To truly present a fair and accurate assessment of mining's impacts on all overlying features, this information is critical. Absent the frequency rate as a frame of reference, the other numbers provided in the report lack proper context and perspective in assessing the scope of damage caused by underground mining.

WATER SUPPLIES

During the 4th assessment period the University of Pittsburgh assessed reported effects on water supplies that may have been impacted by the underground bituminous mining, as required under Act 54. At the outset, the University recognized that much of the information in the Bituminous Underground Mining Information System's (BUMIS) database classified water supply effects as land reported effects and vice-versa, or misidentified the type of water supply, rendering the data incomplete for an accurate analysis.

A reported water supply effect occurs when a feature is thought to be impacted by subsidence. Once a feature is considered for repair it can be classified as "company liable" or "not due to underground mining." Incomplete data aside, the report outlines that there was an increase in the total number of reported water supply effects, 855, during the 2008 to 2013 assessment period, an uptick from 683 reported effects from the 3rd assessment period. However, the reported water supply effects do not reflect the number that were found to be not due to underground mining. During the 3rd assessment period 180, or 26% of the reported water supply effects were found to be not due to underground mining, while during the 4th assessment period 274, or nearly 32%, of reported water supply effects that during the reporting period from 2008 to 2013 were found to be not due to underground mining. The

report speculates that overall increase in the percentage of reported effects found to be not due to underground mining could be a result of data not being accurate due to a misclassification of water or land, or an uptick in complaints due to increased awareness or knowledge. The PCA would also suggest that the overall increase in the percentage of reported effects found to be not due to underground mining could be attributed to the fact that they weren't subsidence related.

Of the reported effects that were found to be company liable, according to the report over 75% were resolved within a year's time, and 25% in under two weeks. It is important to recognize that a number of factors can impact the time period in which a resolution can be met. For example, time is often needed to allow for the water supply to recover and in many cases subsidence can take approximately seven months to stabilize before a repair can begin. Further, if a public water line needs to be extended to a property owner, the operator must wait until mining is complete to avoid additional subsidence, and then factor the time it takes to extend the line must be considered. It is important to mention that Act 54 requires operators to provide a temporary water source until a final source is installed, at the expense of the operators.

STRUCTURES

With the limited available data, as previously explained, the report identifies 380 reported effects on structures at active mining operations during the 4th assessment period, a 17% decrease from the 456 reported effects during the 3rd assessment period.[1] Of the reported effects 142 were found to be not due to underground mining. Seventy-five percent of the reported effects that were identified as company liable were resolved within 180 days and 98% of all reported effects were resolved within two years.

Act 54 requires reporting on a number of structures, from buildings to fences to in-ground swimming pools, all of which collectively total a staggering amount of data that no other industry is required to make available in such detail. Considering such, the Pennsylvania Coal Alliance supports recommendations to submit data electronically in an effort to ensure that data collection is uniform.

Finally, it is significant to note that Act 54 permits the property owner, at any time during the structural repair or water restoration process, to file a complaint the Pennsylvania Department of Environmental Protection (DEP) if the owner feels that the operator is not complying with the law.

[1] The 3rd assessment period analyzed 482 reported effect, 456 from the 3rd assessment period and 26 from the second assessment period. The 4th assessment period analyzed 389 reported effect, 380 for the 4th assessment period and 9 from the 3rd assessment period.

GROUNDWATER

During the 4th assessment period the University was asked to include in the report an analysis of underground mining's impact on hydrology, prompted by a possible connection between challenges with stream flow in previous assessment periods that were actually issues with underlying hydrology.

The Department collected data from over 750 water quantity and quality sampling points and 31,000 sampling events. However, the report explains that regardless of the volume of data, the inconsistent frequency of collection coupled with the number of factors used to determine subsidence as it relates to the flow of groundwater make any analysis challenging. Furthermore, the flow monitoring data provided was determined by the University as not sufficient to report on hydrologic effects.

STREAMS

As previously mentioned in other sections analyzed in the Act 54 five-year report, the University did not have a complete complement of data upon which to conduct their analysis. Such a limited biological dataset is not likely to accurately reflect trends in either mining-induced flow loss or stream recovery. Therefore, some conclusions may prove to be premature when considering the totality of the data actually collected.

The University was tasked by DEP to calculate the lengths of streams undermined that had no reported effects, streams that experienced pooling, and streams with flow loss. In doing so, the University reported that 77% of the total stream miles undermined by longwall mining during the 4th assessment period were either impacted by flow loss, pooling, or both. This percentage did not represent the actual percentage of stream length that experienced flow loss or pooling. Rather, it represented the total miles of stream length that had flow loss or pooling somewhere along their length. As such, this statistic is seriously misleading because it does not reflect the cumulative miles of stream impact, but the total length of streams being monitored.[2]

Further, with regard to flow loss observed during the "wet season," the University calculated that maximum flow loss across all streams totaled 23.7 miles of undermined streams. The 23.7 miles that experienced maximum flow loss are total post-mining miles across all wet seasons for the five year period between 2008 and 2013. The length does not represent a snapshot but a sum of all wet season observed post-mining flow losses through that five year period.[3] For example, in 2013 the maximum post-mining flow loss during the wet season was 2.6 miles. This

---

[2] On 12/20/2010, 5,800 linear feet of Muddy Creek was monitored for flow and 1,560 linear feet were reported to be dry equating to 27% of the stream length. The University in arriving at the 77% figure, totaled the full length of stream, 5,800 feet, as having a flow loss, when in reality only 1,560 feet had a flow loss.

[3] In 2013 the maximum post-mining flow loss during the wet season was 2.6 miles. The stream length also does not account for streams that may be naturally dry during the wet season.

stream length also does not account for stream segments that may have been naturally dry during the wet season.

The report concludes that streams that have experienced flow loss as a result of mining demonstrate statistically significant losses in TBS and water quality, but also suggests that TBS increases over time post-mining. The University suggests that that most streams that have experienced a flow loss will recover to pre-mining biological conditions in approximately three to four years. This is an extremely significant finding since it documents industry's experience that streams recover over time. PCA agrees with this, and suggests that recovery time could improve by utilizing varying restoration techniques and implementing minor changes to permitting procedures.

Moreover, the University did not make the correlation between the decreases in stream investigations from the 3rd assessment period to the 4th assessment period with the fact that the industry has, in partnership with DEP, developed mitigation techniques that have been effective in addressing flow loss and material damage to streambeds. Perhaps because the University did not have a complete complement of post-mining biological data, there were some inconsistencies and incorrect generalizations included in their biological assessment of streams, which can be reviewed in the attached Appendix.

In addition, Section VIII of the report includes assessments of streams that have not recovered due to mining-induced impacts, and the report concludes that of 55 stream investigations that were initiated in the 3rd Act 54 assessment, 51 reached a final resolution by the end of the 4th assessment period. Of the 51 investigations that were resolved, 7 represent cases where the stream was deemed "not recoverable" by the DEP. However, hydrologic data collected in compliance with the approved stream recovery evaluation plan in a Consent Order (CO) which includes those streams was submitted to DEP in September of 2012. As a result of the data submitted, five of the streams listed in the report as second case study streams have now been identified by DEP personnel as not being adversely impacted. The data indicated that all five streams had recovered to the normal range of hydrologic condition as prescribed in the CO. Hydrologic data collected in 2012 that evaluated stream flow determined that flows from the CO streams were within the range of the control streams. Biologic data, also collected and evaluated, indicated the streams are attaining DEP's benchmark TBS.

What is encouraging is the University utilized a large pre-mining biological dataset and completed an extremely robust statistical analysis of the data. In doing so, the University designed a statistical analysis that effectively controlled non-mining related variables for the Total Biological Score (TBS) that would otherwise skew comparisons between samples. This analysis provides insight on one possible way to account for these variables and normalize the TBS for an accurate comparison of pre-mining and post-mining scores. PCA would like to suggest that the methodology presented by the University could be considered for use by DEP to normalize all TBS data submitted for mining permits. Furthermore, in collecting data, the University recommended that the index period for collecting TBS data be shortened to

December to May while encouraging operators to concentrate on sampling from December to March, ultimately eliminating the need to consider month of sampling when assessing stream macroinvertebrate communities. This recommendation is an agreeable approach, as well as the suggestion to electronically submit data.

Streams and wetlands, by virtue of being natural systems, are dynamic and ever-changing in response to both natural and man-made actions. It is often difficult to determine the pre- and post-mining conditions of these resources when sampling efforts represent snapshots in time that may not accurately reflect the total range of conditions within that resource. The improvements in data collection noted by the University since the inception of Act 54 represent a greater understanding of the potential effects of mining on these important resources. The PCA welcomes greater collaboration between the industry and DEP to continue finding better ways to identify mining-induced impacts and speed the recovery of streams impacted by mining.

WETLANDS

Consistent with other section of the Act 54 five-year report, the University did not have a complete dataset to effectively assess the impact of mine subsidence on wetlands. In reporting on wetland acreage, the University used permit renewals as a data source, even though renewals do not align with the 2008-2013 time frame that the report is intended to address. Nevertheless, in evaluating four longwall mines, there was a net gain in post-mining wetland acreage during the 4th assessment period.

Evaluating the changes in wetland acreage pre-mining to post-mining is challenging for several reasons, with precipitation variations being an important consideration.,. Examples provided in the report demonstrate that new wetlands can form and total acreage can change over a span of a few years, pre-mining, with no appreciable changes in land use surrounding the area. The University asserts these variations warrant consideration when evaluating subsidence, and suggests that multiple pre-mining delineations may provide enhanced standards for post-mining evaluations.

The report discusses wetland acreage that was lost and replaced through mitigation, and identifies cover types and associated functions that were not replaced in-kind, but were replaced by a combination of POW, PEM, PSS, and PFO wetland. It is significant to recognize that, by virtue of subsiding lands adjacent to streams, longwall mining can cause new wetlands to be formed and therefore the need for mitigation is infrequent. In cases were mitigation is required, the general practice is to replace wetland acreage and functions at higher levels than those impacted because of the inherent difference between man-made wetlands and naturally occurring ones, and the potential for temporal loss of wetland habitat from initial impact to mitigation completion. This practice of creating additional wetland acreage with higher-functioning plant cover is common throughout all types of impacts that require permits, from

transportation to commercial development to mining. The University suggests in their report that wetland loss should be mitigated essentially in-kind, where emergent wetland is replaced with emergent wetland. However, many of the emergent wetlands observed are very small and often contain invasive species or do not offer significant functional value. Therefore, an in-kind replacement of wetlands of this type as suggested by the University would not likely be accepted by any regulatory agency.

CONCLUSION

PCA and its member companies recognize that there are fundamental and legitimate property owner concerns about the impacts of mining. My testimony should not in any way be construed as industry's indifference towards these concerns or an attempt to marginalize them. We fully understand the apprehensions that people may have when they learn that their home will be undermined and we make every effort to work with them to return their home and lifestyle to normal after subsidence. While mining impacts are temporary and not a permanent disturbance, they have a significant impact on people's lives during the mining and post-mining process. As such, we are both mindful of and sensitive to these concerns.

We are certainly encouraged by the report's conclusion that best management practices standardized by industry to mitigate and repair subsidence effects to structures and water supplies have minimized impacts on local residents.

While the report also acknowledges that DEP has improved its ability to interpret and mitigate the impacts of underground mining on surface and ground waters, we also agree that the Department and industry need to continue its collaborative work on developing best practices – e.g. data standardization and electronic submission – for undermining these types of features.

Finally, when reviewing the background of Act 54, the Council should keep in mind the intent of the law, which was to provide a replacement or restoration remedy for damage caused by subsidence. This was the legislature's solution for balancing the rights of the landowner and coal operator. It was not intended to prevent subsidence from occurring nor was it to allow mining to be conducted with impunity. It was designed to allow these two interests in land to coexist.

Within this context, PCA believes that the fourth five-year assessment report on Act 54 confirms that this law is working as it was intended, its damage repair and water restoration strategies are being carried out as intended, and there is no pattern of violations of the Act's provisions.

Thank you for this opportunity to provide our perspective on the report.

APPENDIX

Examples of PCA's Concerns with Post-Mining Stream Data Assessment

1. The University collected samples for the 3rd assessment and provided the data in Appendix D1. DEP requires samples to be within 16% of each other for a valid comparison. The University collected samples at five sites and only one (UNT to Wharton Run) of their sites met the 16% requirement (10.7%). Their other samples, UNT to Dunkard Fork, UNT to Templeton Fork, Dyers Fork, and Dutch Run had percent differences of 24.4%, 26.6%, 38.7%, and 20.2%, respectively. These samples would not be valid for use in a permit application, or for any regulatory comparison of pre-mining to post-mining impacts. The inconsistency of scores within 16% of each other supports the assertion that streams are dynamic systems that can show a wide range of variability.

2. The samples the University collected for the 3rd assessment, Appendix D1, were missing data. They provided 10 TBS on Module 8.8D forms but only provided 5 corresponding 8.8C forms. Five 8.8C forms are missing. The 4th assessment sampling, Appendix D2, only sampled each site once. In both instances, the University did not provide enough data to make any valid conclusions.

3. On page VII-31 the University states that the reduction of a TBS by 9 points in streams that exhibited flow loss is greater than the 12% allowed for in the TGD. This statement is inaccurate. If the TBS is greater than or equal to 77, then a decrease of 9 points would not be greater than 12%.

4. On page VII-68, the University comments that sample point BSW-22 is approximately 300' downstream from the grouted area, and therefore may not adequately represent the reach that was grouted. However, they clearly state on page VII-9, "The analysis indicated that stations within 1,673 feet of each other had significantly correlated TBS." We interpret that statement by extension to mean that each Appendix B point can adequately represent a reach of stream approximately 1,700 feet long, since two TBS points that far apart are statically correlated within the dataset. This rationale runs contrary to their conclusion regarding BSW-22.

5. On page VII-69, and in Figure VII-27 on page VII-70, the University suggests that site MR T12 is experiencing an adverse effect from mining because the single sample they collected did not generate a TBS within 88% of the pre-mining mean and their sample only contained 19 taxa post-grouting while there were 25 taxa in the pre-mining samples. Based upon their one sample, the University stated, "Data from this site ***confirm the analysis*** from Figure VII-7 and indicate ***that mining induced flow loss generally reduces stream TBS***" (emphasis added). One sample collected by the

University compared with two pre-mining samples cannot confirm an all-encompassing statement such as "mining induced flow loss generally reduces stream TBS." It does not appear that the University completed an extensive analysis of MR T12 and instead made their conclusion based on the information that prior to mining, MR T12 experienced "little human disturbance." The University, at a minimum, should have collected two post-mining samples within 16% of each other before drawing any conclusions regarding MR T12. Additionally, as part of the dataset that the University did not have available to them, two samples within 16% of each other have been collected at MR T12, and show a mean score two points higher than the pre-mining TBS (pre-mining mean is 77, post-mining mean is 79). These results contradict the University's conclusions regarding MR T12 that the stream has experienced an adverse impact.

6. The University states there is a lack of post-mining/pre-restoration macroinvertebrate data at pooled reaches of stream. There have been several pooled reaches where water was over 3' deep, especially in larger, valley bottom streams such as Whiteley Creek and Dyers Fork. Accuracy of the Appendix B methodology in water deeper than approximately 18" decreases due to the difficulty of conducting a sweep or kick and the possibility the organisms will escape from the net because of the lack of flow. Sampling in these areas is generally postponed until after construction, and always with the consultation and approval of the DEP.

7. The University sampled MC B2 (page VII-72, Figure VII-29) and compared their sample to submitted data. The University noted their score of 31.1 was not within the 88% percent required by DEP. The post-mining target score that would be within 88% of the pre-mining score is 38.5. The University's sample was collected in the fall while post-mining data samples submitted were collected in the spring, and according to their own study, fall samples are generally 10-11 points lower than spring samples. At a minimum, the University should also have collected 2 scores within 16% to determine if their mean post-mining score compared with submitted data. Again, the University's one sample at MC B2 would not be suitable for any permitting activity and is inconsistent with the stream TGD.

8. The University sampled BSW 13 in March of 2013 (page VII-73) and stated that their post-mining score was within the range of pre-mining scores (assuming they meant within 88%). The University alludes to the fact that the site was only in compliance due to the augmentation that was on from the fall of 2012 through February 2013; however, their score was from a sample collected nearly a month after the augmentation was turned off. They state, "While augmentation was not on during the University's sampling, the sample may not accurately reflect the natural biological conditions on site." If the augmentation was turned off, the stream was at a more natural hydrologic state than if flow was being supplemented by artificial means.