



Eastern PA Coalition for Abandoned Mine Reclamation

Robert E. Hughes
EPCAMR Executive Director

101 South Main Street
Ashley, PA 18706

Phone: (570) 371-3523

rhughes@epcamr.org

Website: www.epcamr.org

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Senate Environmental Resources & Energy Committee
Senator Gene Yaw, Chairman
Room 362 Capital Building, 23rd Senatorial District
Senate Box 203023
Harrisburg, PA 17120-3023

RE: Waste Coal Facilities Hearing

Dear Senator Yaw, Chairman of the Senate Environmental Resources & Energy Committee, and fellow members of the distinguished Committee:

On behalf of the Eastern PA Coalition for Abandoned Mine Reclamation (EPCAMR), a 20 year old, regional, non-profit environmental organization located in Ashley, PA dedicated to the reclamation of abandoned mine lands, restoration of watersheds impacted by abandoned mine drainage (AMD), and economic redevelopment of abandoned mine lands impacted by past mining practices throughout the Northern Anthracite Coal Fields and the Bituminous Coal Fields of Northcentral PA, I would like to offer testimony on the importance and necessity PA's waste coal co-generation facilities have on our past mining landscapes, watersheds, and local economies.

EPCAMR is a long-time affiliate member of the ARIPPA trade association and has been an active for two decades, since our inception. ARIPPA and Anthracite Region waste coal plants and partners have been providing my organization with opportunities to partner with individual member plants in the Anthracite Region as well as in the Bituminous Region of PA on land reclamation, watershed restoration, habitat restoration, and abandoned mine drainage (AMD) remediation projects to reclaim the scars of our mining past for years.

ARIPPA has even played a key role in the original charter membership and organization of our non-profit in

1995, as we began to establish ourselves as a regional capacity building organization for community groups, conservation groups, Conservation Districts, and municipalities throughout the Coalfields of Northeastern and NorthCentral PA to serve as a liaison to the State, County, Local, and Federal government agencies involved in abandoned mine reclamation and watershed restoration.

To see the amount of material that has been excavated, backfilled, seeded, and mulched, on dozens of reclamation sites over the last two decades is simply amazing and truly a testament to the land reclamation efforts of the waste coal industry. Fuels managers, machine operators, plant operators, and heavy equipment operators and their fuel supply companies, like Northampton Fuel Supply, Inc., who just won the National Association of Abandoned Mine Lands Reclamation Award last week for the extensive land reclamation efforts that has had to occur on the “Loomis Bank Operation”, Hanover Township, Luzerne County, PA to backfill, regrade, create surface contours and conveyances to control stormwater, and to keep surface water from entering the underground abandoned mine pool in the lower Wyoming Valley that would have ultimately continued to contribute to the formation of abandoned mine drainage (AMD) that would have ended up discharging into the Nanticoke Creek Watershed, had they not reclaimed the site. Because of the amount of land reclamation completed on the Loomis Site, it can now be considered for future business development which will provide economic development opportunities to the Southern part of the Wyoming Valley, and can add taxable income and revenue streams to the local school district, the local township, and Luzerne County, in terms of future taxes to improve the local economy of Hanover Township and the surrounding coalfield communities.

What stands out the most is the lack of the mountainous black banks of waste coal, culm, slate rock, and burnt clinkers of coal that dominated the regional landscape historically. There is no longer the smell of burning mine fires with its sulfur gas dispersing into the air as prevalent as it was 20 years ago. The greening of the landscape and topography, along with the surface features that have been reclaimed now dominate hundreds of reclamation sites. Land reclamation has significantly reduced the environmental damage that had historically been a problem across the Coal Region. Ambient air quality has no doubt improved since there is no more smell of sulfurous gas coming from extinguished mine fires, dust suppression is no longer necessary due to the light finer coals that once sat in the processing and siltation ponds, elimination of secluded illegal

dumping grounds for litter and tires occurs, and water has been restored to the surface and does not percolate down into the mine spoils any longer creating AMD. The work of the waste coal industry has improved thousands of acres of trees, grasses, and wildflowers that have now been reestablished on sites with lush vegetative growth and ground cover that has reduced sediment and erosion into the local waterways.

ARIPPA facilities remove and utilize coal refuse from both past and current mining activities, thereby abating acid mine drainage from coal refuse stockpiles. The facilities also utilize the ash by-product in a beneficial, highly regulated, manner to reclaim damaged abandoned mines lands and streams all at no cost to taxpayers. By converting coal refuse into alternative energy, ARIPPA members are removing one of the principal sources of contamination to surface and ground water in legacy coal mining regions. Until the commercial development of the circulating fluidized bed boiler, there was no significant use for this low BTU-value coal refuse, fuel/material. Now this fuel/material can be put to good use in the production of clean alternative energy.

To date over 214 million tons of coal refuse have been converted into alternative energy by member ARIPPA plants. Circulating Fluidized Bed (CFB) technology, one of the cleanest methods available today, has been used to convert coal refuse into electricity and an alkaline-rich ash by-product utilized for decades in a highly regulated, safe, and beneficial manner to fill and reclaim unsafe, abandoned mine lands; to remediate streams damaged by acid mine drainage; amend soil at mining sites, and serve as an additive in concrete/asphalt for construction and roadways. The unique nature of ARIPPA's environmental efforts combined with the desire to coordinate these efforts with "hands on" environmentally oriented groups, like EPCAMR, and governmental agencies symbolizes its commitment to improving our Commonwealth's landscape and environment at no expense to the taxpayer.

Thanks to private and public investors, the Public Utility Regulatory Policies Act (PURPA), and the advent of Circulating Fluidized Bed (CFB) technology, a vibrant, alternative energy production industry exists today which converts stockpiled low BTU fuels into much needed electricity. ARIPPA member plants have historically operated under a long term utility Power Purchase Agreement (PPA), supplying alternative energy to utility companies at a fixed price. Accordingly ARIPPA member facilities have continued to meet or exceed the ever increasing environmental compliance regulations and laws (mandated since 1987) by directly

absorbing the compliance costs without increasing fees paid by electric utility rate payers.

ARIPPA's member facilities constitute the overwhelming majority of the coal refuse power production industry in the world generating approximately 10% of the total electricity in the Pennsylvania/West Virginia region. It is a unique and beneficial industry to Pennsylvania, given the need for the plants to assist our coalfield residents and communities in cleaning up our abandoned mine problems throughout Pennsylvania. Hundreds to thousands of citizen-workers, who are directly or indirectly employed by the ARIPPA industry, live, along with their children, families, and extended families, in communities within close proximity of the ARIPPA alternative energy plants. These communities and nearby lands and streams have experienced vast environmental and economic improvements due mainly to the decades of hard work and dedication, these workers, and the ARIPPA industry has provided. One only has to look at the recently published and released ***Economic and Environmental Analysis of PA's Coal Refuse Industry*** Final Report, dated September 8, 2016, produced for ARIPPA, by Econsult Solutions, Inc. to see the true value and public benefits of the waste coal industry.

As one example, EPCAMR is currently facilitating discussions, field meetings, meetings with local, County, and State government officials, Pagnotti Enterprises, Abrahams Creek Watershed Association Swoyersville Borough residents, and the waste coal industry leaders from Olympus Power, LLC, Panther Creek Partners, Northampton Energy Services, PA DEP Pottsville District Mining Office and the PA DEP Bureau of Abandoned Mine Reclamation, State Representative Aaron Kaufer's Office in the 120th Legislative District, to discuss funding options, a government financed construction contract, and incentives to reclaim an estimated **4 Million cubic yards** of abandoned waste culm from the former Harry E. Breaker Colliery grounds, located in Swoyersville Borough, Wyoming Valley, Luzerne County. The potential land use development of the site once reclaimed is being considered for a high-end housing development that could bring in new families, new tax dollars, trade jobs, trucking, hauling, and other ripple effect boosts to the surrounding local economy. EPCAMR is a major supporter of a very important piece of national legislation called the RECLAIM Act (HR 4456), that's been introduced and sponsored by Congressman Harold Rogers, Kentucky, that could bring in additional Federal dollars for reclamation and economic redevelopment projects such as this one and are

advocating for its passage. (<http://epcamr.org/home/content/legislative-front-and-petitions/abandoned-mine-land-trust-fund/>); (<https://www.congress.gov/bill/114th-congress/house-bill/4456/>)

Throughout the country, watershed groups and local governments, are playing an increasingly prominent role in environmental management. With their local focus and community base, watershed groups and Coalitions like EPCAMR, are building consensus and expanding participation within communities across Pennsylvania. It is not uncommon for organizations to operate on an annual unrestricted budget of less than \$5,000, while at the same time implementing \$100,000 projects that directly benefit communities and the environment.

Abandoned mine land projects in particular, are costly and are long-term endeavors, often taken on by non-profit organizations that operate through grant and foundation funds. According to the Pennsylvania Department of Environmental Protection (PA DEP) Mining Reclamation Advisory Board (MRAB), the average cost of an AML project falls in a range of \$8,000 to \$20,000 per acre. If AMD is present on those lands, the cost could be even higher. Pennsylvania organizations have relied heavily on Growing Greener funds, which have dwindled in recent years, making it more difficult to fund projects.

The ARIPPA AML/AMD Reclamation Mini-grant Program developed and administered by EPCAMR and our western counterpart, was created in partnership with ARIPPA, in 2010, to help environmental organizations and Conservation Districts secure extra match and leverage additional funds from other State, Federal, County, or Local sources. The waste coal industry has also provided donations over the last 6 years to EPCAMR and a similar organization to ours in Western PA to support land and water reclamation projects, community projects, stream restoration projects, education and outreach programs to underserved coalfield communities, and AMD monitoring, operation, repair, and treatment. Watershed protection is one of the fastest growing areas of community-based collaboration. EPCAMR redistributes the entire amount of the donation back out to the community groups and reclamation partners across our region each year. To date, ARIPPA has donated **\$30,000** to EPCAMR alone, and another \$30,000 to our western counterpart, to support abandoned mine land reclamation projects across PA. ARIPPA also has been a partner in our annual PA Conference on Abandoned Mine Reclamation for many years making presentations and providing financial support. (www.treatminewater.com) and has allowed EPCAMR to make presentations at their Tech Symposiums.

In 2016, ARIPPA donated \$5,000 (\$2500 to each of the Coalitions) to fund even more projects throughout the state including:

Newport Township CrimeWatch Organization—\$500 towards hauling, proper electronics waste disposal, dumpster, and cleanup supplies for a planned 2017 Spring Cleanup (between April and May 2017), on an abandoned mine land area in Newport Township, Luzerne County, PA where up to 40 tires will be removed and 10-12,000 pounds of illegally dumped trash, discarded furniture, construction waste, and household wastes will be removed, in partnership with Newport Township, Newport Township Community Organization, Greater Nanticoke Area Community Garden, Newport Township Police Department, Nanticoke Conservation Club, EPCAMR, and the Spooky Off-Road Club. 50 volunteers are expected to participate. EPCAMR will administer the grant on behalf of the NTCO.

Mehoopany Creek Watershed Association—\$800 towards the purchase of lime to be placed on food plots on State Game Lands #57, adjacent to the Mehoopany Creek, Wyoming County, PA in partnership with the Whitetails Unlimited, PA Game Commission, who will be donating machinery to spread the lime, and EPCAMR. During rain events, lime will eventually reach the stream, having already benefited the food plots, and will increase the pH of the acid mine water entering the watershed. The liming will occur in the Fall of 2016.

Luzerne Conservation District—\$700 towards a pressure transducer that will be installed at the Plainsville AMD Borehole in Plains Township, Luzerne County, PA to obtain real-time data that will allow for the Luzerne Conservation District, Plains Township, EPCAMR, and the landowner, Mr. Greg Price, to gain a better understanding of the actual flows, chemical loadings of iron and other trace metals reaching the Susquehanna River, and to help learn more about the underground mine pool complex in that area of the Wyoming Valley. EPCAMR and the Luzerne Conservation District will be taking the lead on the monitoring of the Plainsville AMD Borehole discharge and have developed a feasibility study that they are going to be submitting for grants

to perform the necessary background data collection to begin looking at AMD Treatment options and finding ways to improve the water quality of the Susquehanna River.

EPCAMR—\$500 towards the cost of hauling trash to the landfill to cover the tipping fees and for supplies to assist with the third cleanup of Centralia on September 24, 2016, led by EPCAMR Staff, former and current residents of Centralia, Pagnotti Enterprises, Centralia Hose Company No. 1, Wicked Jeeps of Central PA, Keystone Off-Road Vehicle Association, PEC NE Office, Keep PA Beautiful, Centraliapa.org, Joe Sapienza, II, and nearly two dozen other contributors of funds to support the annual cleanup on the abandoned mine lands, roads, and streets throughout the Borough. 60 volunteers attended. 6 Tons of trash were collected in 3 hours.

In 2015, ARIPPA donated \$5,000, (\$2500 to each of the Coalitions) via the AML/AMD Reclamation Award Program, funding several projects throughout the state including:

Huntingdon County Conservation District: \$750 for Limestone Dosing of Shoup's Run

Elk County Conservation District: \$1,250 for West Creek Headwaters AML Analysis

Allegheny Land Trust: \$500 for Sign Replacement at Wingfield Pines AMD TS

Mehoopany Creek Watershed Association: \$800 for the purchase of lime sand for dosing

Earth Conservancy: \$1,200 for Askam Borehole TS Wayside EE Exhibit

McGlynn Learning Center: \$500 for 2 Build-a-Birdhouse Workshops in partnership with HOME DEPOT and with underserved youth from low-income housing complexes within the City of Wilkes-Barre to place on abandoned mine lands for wildlife habitat

In 2014, ARIPPA donated \$5,000 (\$2500 to each of the Coalitions), ultimately funding several projects throughout the state including:

Evergreen Conservancy: \$1,250 to purchase rechargeable batteries at the Tanoma Renewable Energy AMD Treatment System.

Altman Watershed Association for Restoring the Environment (AWARE): \$1,250 for construction activities associated with an AMD treatment system built in partnership with Robindale Energy

Babb Creek Watershed Association: \$1,300 for replacement parts for the Antrim AMD Treatment System

Mehoopany Creek Watershed Association: \$500 for the purchase of lime sand for dosing

Centralia Illegal Dump Site Cleanup: \$700 for the purchase of supplies and hauling of trash

In 2013, ARIPPA donated \$5,000, (\$2500 to each of the Coalitions), ultimately funding several projects throughout the state including:

Allegheny Valley Land Trust: for the construction of a system to collect sediment from a spoil pile along the Allegheny River

Evergreen Conservancy: to purchase and install a new water turbine at Tanoma Wetlands, a passive mine drainage treatment system at the headwaters of Crooked Creek, a tributary of the Allegheny River. Combined with a wind turbine and solar panels installed previously, the system will be aerated 24/7.

Luzerne Conservation District: \$500 for the removal of heavy sedimentation and woody debris dams within the tributary and to repair severely eroded stream banks and storm water outlets flowing into Knockley's Tributary to Solomon Creek, Wilkes-Barre

Mehoopany Creek Watershed Association: \$1,000 for 50 Tons of limestone sand that was applied to the South Branch of Mehoopany Creek to increase the pH levels in the stream, improving the fishery habitat and water quality in the creek; historically impaired by acidity

Plymouth Historical Society: \$500 to clean up illegally dumped garbage at the historic Avondale Mine Disaster Site where EPCAMR completed several historic preservation projects in the past; located in Plymouth Township, Luzerne County, PA

Lackawanna River Corridor Association: \$500 for a real estate appraisal on abandoned mine lands hoped to be secured to by their partner, the Lackawanna Valley Conservancy, in an effort to use for future AMD treatment of the Old Forge AMD Borehole, on the border of Luzerne and Lackawanna County

In 2012, ARIPPA donated \$10,000 (\$5000 to each of the Coalitions), ultimately funding several projects throughout the state including:

Sewickley Creek Watershed Association: \$2,500 for Iron sludge recovery in the Marchand AMD Treatment System

Chestnut Ridge Chapter of Trout Unlimited: \$2,500 for lime dosing

Babb Creek Watershed Association: \$1,000 offset cost of micro-hydroelectric turbines that utilize 2 billion gal/day of the Antrim AMD to generate electricity

Eastern Middle Anthracite Region Recovery, Inc.: \$1,000 for refurbishment of hydroelectric components on the Audenried AMD Treatment System

Loyalsock Creek Watershed Association: \$2,500 to purchase and apply limestone to continue the treatment of a large AMD seep at WALA Lake

Shamokin Creek Restoration Alliance: \$500 to restore roadway, remove silt from pond 2, block entrances, and install signs at Carbon Run Site 42 AMD Treatment System

In 2011, ARIPPA donated \$10,000 (\$5000 to each of the Coalitions), ultimately funding several projects throughout the state including:

Blackleggs Creek Watershed Association: \$2,500 for the construction of a concrete pad for a lime dosing silo in the Bear Run Treatment Complex

Stream Restoration, Inc.: \$2,500 for project costs associated with removing waste coal refuse to be used in energy production and the construction of an AMD treatment system

Schuylkill Headwaters Association: \$3,000 for the Wagner Run Restoration project to keep water in the stream channel, reducing the volume of the Pine Knot AMD discharge

Huber Breaker Preservation Society (HBPS): \$1,000 for the Huber Memorial Park pedestrian access gate project to place a gate in a wrought iron fence surrounding the property

Eastern Middle Anthracite Region Recovery, Inc.: \$1,000 for the Audenreid Micro-Hydro AMD Treatment System raw water intake project to provide reliable flow to the system

In 2010, ARIPPA celebrated its 20th Anniversary by awarding \$20,000 via the AML/AMD Reclamation Mini-grant Program, funding several projects throughout the state including:

Clearfield Creek Watershed Association: \$8,000 for Swank 13 AMD Passive Treatment

Evergreen Conservancy: \$2,000 for alternative energy development at Tanoma Wetlands

Earth Conservancy: \$460 to replace informational signage on the Mocanaqua Loop Trail developed on abandoned mine lands

Schuylkill Headwaters Association: \$4,770 to repair the Glendower Breach which will return a stream back to its original channel avoiding contact with coal sediment

Eastern Middle Anthracite Region Recovery, Inc.: \$4,770 for construction of a raw water intake on the Audenreid Treatment System to increase flow to the micro-hydro turbines

I have collaborated with many coalitions and partners, community activists, active environmentalists, conservation organizations, community and economic development organizations, educational and research interest groups, colleges and universities, multiple energy production interest groups, public utility groups, and governmental interests at all levels, to improve the quality of life for our region, here in Northeastern and NorthCentral Pennsylvania particularly, but across the Commonwealth as well. During the last 25 years, I have learned and gained an understanding of the many facets and intricacies in our Commonwealth related to our environmental issues, economic struggles, environmental science and research, as well as a great understanding and appreciation for our environmental resources and indigenous resources that we so often take for granted.

EPCAMR also supported the legislation for a coal refuse energy and reclamation tax credit, to the ARIPPA Co-Generation Industry plants across Pennsylvania. The coal refuse energy and reclamation tax credit is in recognition of the significant and tangible benefits to the environment and savings in Commonwealth funds in reclaiming coal refuse piles and previously mined lands provided by eligible facilities. The tax credit rate, measured based on the amount of qualified fuel used, serves as a surrogate measure for environmental benefits, including water quality improvement, air pollution abatement, and land restoration, derived from eligible facilities through the utilization of coal refuse and associated reclamation of coal refuse piles, and the beneficial use of coal ash for reclamation of mine-affected lands. This industry needs exemption from heavy CO₂ restrictions to insure that PA can get the huge piles of coal waste around the Anthracite area and Bituminous region reclaimed over the next few decades.

EPCAMR also recently submitted comments on PA's compliance with the US EPA's Clean Power Plan (CPP) and the Clean Energy Incentive Program component. EPCAMR supports a State Plan that will comply with the CPP that is tailor-made for our respective State's economy and residents, will protect our indigenous resources, and our position as a net energy exporter as opposed to being reliant on importers of energy to the Commonwealth. Pennsylvania does have a diverse energy portfolio and a rich set of indigenous resources that are inextricably linked to our economy and we encourage those resources and industries to play a major role in how our Commonwealth develops a plan that works for PA. We believe that Pennsylvania and its energy industries can reduce carbon pollution through a combination of measures and strategies.

Pennsylvania's Act 129 energy efficiency programs operating through the electric utilities should qualify as activities that could receive credit towards the goal as well. It might be advantageous for Pennsylvania to participate in a multi-state carbon trading program managed by the US EPA in Region III that would allow power plants to trade their allowances or credits for carbon dioxide, with each other and or across state lines in order to stay in compliance with the emissions reduction targets, particular with adjacent states like Ohio, where coal-fired plants from the Ohio River Valley, tend to emit emissions that are carried by winds and weather systems that drop acid deposition into many rivers, streams, and regions of Pennsylvania that can lead to secondary impacts on the environment and our citizens.

Much of my comments are related to air quality and carbon pollution reduction surround our efforts to support and partner with our Anthracite and Bituminous Co-Generation facilities and the significant role we think they can continue to play moving forward with the drafting and implementation of the CPP for Pennsylvania.

The waste coal industry can play a major role in achieving some of the goals for PA under the CPP since their technologies that are being used in the Circulating Fluidized Bed (CFB) boiler processes still are well within the Title V Air Quality Standards for PA with their innovative scrubbers and precipitators that are trapping emissions and doing their part to reduce carbon pollution in the atmosphere. The Wyoming Valley area, where I was born and raised, is located in and adjacent to, environmental justice areas and we need to ensure that the Commonwealth is reaching out to its most vulnerable citizens. If one looks at the locations of where the environmental justice communities and areas are throughout the Commonwealth, you will find that a

large majority of them are located in the coalfields of Pennsylvania, where coal-fired plants exist. These coal-fired plants are not to be confused with the Co-Generation Plants, that have more suitable clean air technology best management practices that are in use to benefit the surrounding communities that they operate in, who reclaim the former mine-scarred lands, remediate streams impacted by past mining pollution, and plant trees, vegetation, and grasses that also are positive contributions to the carbon sequestration cycle in the environment. Millions of tons of culm banks, coal refuse, and waste rock are being converted to alternative forms of electricity through the production goals of the ARIPPA plants across the Commonwealth.

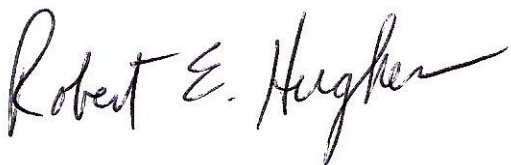
This is one area that EPCAMR feels gets overlooked by the Commonwealth. The sheer acreage of abandoned mine lands that formerly had been devoid of trees, grasses, vegetation, and often times, detrimental air quality emissions that had come from abandoned mine fires, that are now reclaimed, green, revegetated, had been previously bonded and released, are now often in a state of succession and forest ecology transition that should be given some credit towards reaching Pennsylvania's carbon reduction.

The CPP needs to become an essential part of Pennsylvania's responsible energy policy. We believe that it is indisputable that we are facing significant changes to our climate and that these changes are being influenced by, accelerated by, anthropogenic activities that are producing carbon dioxide and the related greenhouse gasses. Over time, these changes will continue, accelerate, and the resulting impacts will have profound consequences to not only our State, the planet, our people, and our ecosystems and climates around the world. We need to take advantage of the opportunities presented in the CPP, which are numerous and of great benefit to our health and the environment. We should look at these opportunities in a forward looking way that is both creative and innovative and based on sound science and the latest best management practices and technologies that are available to our industries. It's vital that we reduce our carbon production by 30-40% over the next 20 years. The CPP provides the flexibility that we need. We need to bring together the collective minds that will bring creative and imaginative solutions to the table, innovative technologies, new designs, new alternative energy systems, a balanced use of our natural and extractive industry resources, and regional community-focused economic redevelopment opportunities related to the investment in clean energy production, conservation by design, smart growth, low-impact designs, and smart infrastructure and transportation systems.

EPCAMR recently supported the SENSE Act to continue to help the industry remain a valuable partner and ally in abandoned mine reclamation across PA and an important part of our regional communities, providing jobs, economic redevelopment opportunities, land reclamation, cleanup of our land and waterways, and alternative energy to our region.

Lastly, another energy renewable source that is dormant in Pennsylvania and needs attention and public and private investment through the CPP is the use of underground abandoned mine pool complexes of water for geothermal heat capture and or cooling systems coupled with gas turbine generation. This could provide tremendous opportunities for institutional, business, residential, commercial, and or industrial heating and cooling. One only has to look at what Marywood University did to install and build a geothermal heating and ventilation system into the underground Scranton-Metro Mine Pool Complex to heat and cool some buildings in Scranton. Wind and solar sources coupled with mine pool geothermal recovery have great potential as well and the local applications of these sources in distributed energy systems need to be promoted and invested in. EPCAMR has done a great deal of work in mapping these underground abandoned mine resources, mine pool complexes, regional mine pool boundaries, and worked on many projects and research in this area and would be very interested in being a part of future projects and or facilitating the start-up partnerships necessary to incubate private investment and businesses into our area with our waste coal partners.

Respectfully submitted,

A handwritten signature in black ink that reads "Robert E. Hughes". The signature is written in a cursive style with a long, sweeping underline.

Robert E. Hughes
EPCAMR Executive Director