

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

IN THE MATTER OF )  
 )  
 ) DOCKET NO. M-2024-3051988  
TECHNICAL CONFERENCE ON )  
 )  
RESOURCE ADEQUACY IN PENNSYLVANIA )  
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COMMENTS OF THE APPALACHIAN REGION INDEPENDENT  
POWER PRODUCERS ASSOCIATION (ARIPPA) ON COMMISSION'S  
TECHNICAL CONFERENCE ON RESOURCE ADEQUACY IN PENNSYLVANIA

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**Introduction**

The Appalachian Region Independent Power Producers Association (“ARIPPA”), on behalf of its member companies, appreciates the opportunity to provide comments on the Technical Conference on Resource Adequacy in Pennsylvania (“Conference”) held by the Pennsylvania Public Utility Commission (“PUC” or “Commission”) on November 25, 2024.

The Conference was divided into panels addressing three areas of concern identified by the Commission:

- Session 1: What are the right mix of resources and how do we get them online? Will effective load carrying capacity (ELCC), properly designed, accomplish this?
- Session 2: How do we facilitate completion of the construction of those generation resources?
- Session 3: What can the PUC do to ensure resource adequacy for electric distribution customers?

ARIPPA’s comments will focus on how the coal refuse reclamation to energy industry can help the PUC address the concerns raised in these questions related to resource adequacy. ARIPPA supports the goal of the PUC in promoting safe and reliable electric generation in the Commonwealth while concurrently recognizing the need to address abandoned mine land (“AML”) pollution from the Commonwealth’s historic mining operations and ensuring an adequate and reliable supply of electricity to power our homes and businesses. The coal refuse reclamation to energy industry operates as a vital partner with the state and federal governments to accomplish these monumental tasks. The industry has a long history of working with the Pennsylvania Department of Environmental Protection (“DEP” or “Department”) to address AML priorities.

**Background**

Organized in 1989, ARIPPA is a nonprofit trade association based in Camp Hill, Pennsylvania,

comprised of independent electric power producers, environmental remediators, and service providers that remediate polluting waste coal piles, often located on abandoned mine lands, to produce alternative energy. The association represents ten unique environmentally beneficial coal refuse reclamation to energy facilities located in Pennsylvania that utilize circulating fluidized bed (“CFB”) boiler technology to convert coal refuse (waste coal) into highly alkaline beneficial use ash utilized in mine land reclamation. This process uses coal refuse as a primary fuel to generate electricity which is sold through the wholesale energy market operated by the PJM regional transmission organization (“RTO”) to provide private funding for mine land reclamation.

Most of the ARIPPA coal refuse reclamation to alternative energy plants were originally constructed as Qualifying Facilities (“QFs”), subject to size restrictions pursuant to the Public Utility Regulatory Policy Act (“PURPA”) of 1978. As a result, most of these facilities are relatively small in size, with all but one facility between 33 to 112 megawatts (“MW”) net operating capacity and a combined generation capacity just under 1,200 MW located in Pennsylvania.

Below is a listing of the coal refuse-fired electric generating units (“EGUs”) currently operating in Pennsylvania:

	<b>Pennsylvania CFB Coal Refuse Facilities</b>	<b>County</b>	<b>MW Net Capacity - Fuel Type</b>
1	Colver Green Energy LLC	Cambria	110 Bituminous
2	Ebensburg Power Company	Cambria	50 Bituminous
3	Gilberton Power Company (John B. Rich Memorial Power Station)	Schuylkill	80 Anthracite
4	Mt. Carmel Cogen	Northumberland	43 Anthracite
5	Northampton Generating Company, LP	Northampton	112 Anthracite
6	Panther Creek Power Operating, LLC	Carbon	80 Anthracite
7	Rausch Creek Generation, LLC	Schuylkill	33 Anthracite
8	Schuylkill Energy Resources (SER - St. Nicholas)	Schuylkill	80 Anthracite
9	Scrubgrass Reclamation Company, LP	Venango	83 Bituminous
10	Seward Generation LLC	Indiana	525 Bituminous
		<b>Total PA MW</b>	<b>1,196</b>

ARIPPA member facilities provide a unique environmental benefit by utilizing state-of-the-art CFB

technology to convert coal refuse into alternative energy. The industry achieves both economic and environmental benefits through a complete “fuel cycle,” utilizing coal refuse to produce and sell energy, and producing “beneficial use ash” as part of the energy generation process. This beneficial use ash is subject to regular testing to meet rigorous DEP guidelines prior to use in remediating and reclaiming mining-affected lands or otherwise being beneficially applied pursuant to DEP guidelines. This approach produces documented environmental restoration benefits, produces economic activity and employment across the fuel cycle, and addresses coal refuse piles without the need for costly landfills or other environmentally inferior disposal methods.

Since the late 1980s, the facilities that comprise the coal refuse reclamation to energy industry have removed at least 250 million tons of waste coal and remediated over 7,200 acres of land thereby improving more than 1,200 miles of Pennsylvania waterways. However, according to a 2023 DEP inventory, there remains at least 200 million tons of polluting waste coal located on more than 760 identified sites covering 8,000 acres. At least 1.4 million Pennsylvanians live within one mile of an AML site which directly impact 44 of Pennsylvania’s 67 counties. The estimated cleanup cost of all AML issues is at least \$15 billion, while the scope of the problem continues to outpace available and dwindling mine land reclamation resources.

The coal refuse reclamation to energy facilities play a critical role in environmental remediation in the coal regions where they are located by removing coal refuse piles, reclaiming mining affected lands and reducing or even eliminating surface and groundwater pollution caused by acid mine drainage (“AMD”) from coal refuse piles. At full capacity, this industry can remove about 10 million tons of coal refuse from the environment and reclaim up to 200 acres of mining affected land in Pennsylvania each year. Without these plants, most of these polluting waste coal piles will not be removed due to limited alternative AML reclamation processes and funding.

By converting coal refuse into alternative energy, ARIPPA members are removing one of the principal sources of contamination to surface water and groundwater in coal mining regions and downstream communities of Pennsylvania. AMD is the second largest source of water pollution in the Commonwealth, responsible for a significant percentage of those streams identified by DEP as being “degraded.” Coal refuse piles degrade water quality through acid mine drainage, where precipitation picks up pollutants that then leach into ground and surface waters. The iron-sulfide minerals found in coal refuse piles are oxidized and discharge iron, manganese, aluminum, and other metals and minerals into water flows. These discharges increase the acid level and silt content of local waterways, causing streams to turn orange in color and harming their ability to sustain marine and plant life.

Historic abandoned mine land hazards in Pennsylvania include mountains of black waste, scarred landscapes, acidic drainages polluting more than 5,500 miles of our streams and other hazards threatening human health and safety and depressing local economies. When considering the limited federal dollars available for reclamation and remediation of mining-affected lands and the magnitude of coal mining’s legacy in Pennsylvania, ARIPPA facilities utilize coal refuse from historic mining activities that would otherwise remain in communities throughout the Commonwealth

producing acid mine water discharges to surface waters and groundwater and prevent uncontrolled air pollution caused by fugitive coal dust and coal refuse pile fires.

The removal of coal refuse piles also improves air quality through the elimination of potential and uncontrolled emissions from burning coal refuse piles and by eliminating coal refuse sites as sources of fugitive dust which will continue until these sites are reclaimed and the land restored to a productive use or covered with vegetation. Additionally, vegetation and soil profiles on reclaimed sites provide carbon sequestration. This would not be achievable without the ability to dispose of the polluting coal refuse in waste coal-fired units and reclaim sites with alkaline beneficial use ash produced in the fuel cycle of the mine land reclamation to energy facilities.

Coal refuse energy facilities have found a way to finance the cleanup of abandoned coal refuse piles, reducing presently occurring emissions of anthropogenic methane and other greenhouse gas (“GHG”) emissions, while also displacing other carbon dioxide (“CO<sub>2</sub>”) emitted from the portion of other fossil generation sources still being phased out. Absent the coal refuse energy industry, legacy coal refuse piles would remain essentially abandoned to the environment and will frustrate regional air quality and climate change goals for multiple additional generations as the abandoned piles themselves continue to emit products of incomplete combustion, CO<sub>2</sub>, and the potent greenhouse gas methane.

Unfortunately, lack of understanding that these coal refuse energy facilities operate to address legacy environmental damage has become confused with the environmental movement to shutter utility-scale coal-fired generating plants that extract new coal from mining for the purpose of generating electricity, all the while generating even more coal refuse from screening. Lost in the translation is the unique environmental role, including important net reductions in air pollutants and GHG emissions, provided by the coal refuse energy industry. While the industry continues to help reverse coal refuse pile runoff pollution to water and soil, it is now incumbent to reevaluate this industry in the context of its net GHG emissions.

Emissions from the coal refuse energy industry are often inappropriately compared to traditional coal-fired EGUs; however, the coal refuse energy industry produces fundamentally different benefits than coal-fired EGUs because they primarily provide mine land reclamation services while co-producing useful energy. Those pulverized coal-fired generating units are not capable of remediating abandoned coal refuse to clean up the environment in the same manner as CFB boiler technology. Coal that is mined to produce power in these facilities has been effectively sequestering carbon beneath the earth for millions of years.

The environmental community has focused on phasing out extraction of fossil fuel from its sequestered state within the earth, however abandoned coal refuse has already been extracted and then discarded – it can never be returned to a naturally occurring underground coal seam. Mining, processing, and combustion of that sequestered carbon of newly mined coal indeed re-emits this long dormant CO<sub>2</sub>. Abandoned refuse piles, however, have already been mined and are now an abandoned environmental legacy pollutant, free to continue emitting greenhouse gases

and other harmful air emissions without any further human intervention over hundreds of years.

The positive environmental benefits from their unique fuel cycle, which functions in many ways more like a waste disposal facility, distinguishes these facilities from any traditional fossil fuel-fired power plant. It is clearly in best interests of the Commonwealth and its citizenry that coal refuse reclamation to energy facilities continue to play a vital role in the removal of coal refuse and reclamation of mining-affected lands through the creation of alternative energy in Pennsylvania.

While electricity sales inject private funding into mine land reclamation, the industry's multimedia focus beyond electricity production subsidizes the reclamation of polluting coal refuse piles that would otherwise require significant taxpayer funding to remediate. The coal refuse to alternative energy industry provides an option for removing coal refuse piles from the environment without shifting the full significant cost to public resources, thereby reducing the cost on Pennsylvania taxpayers. Should that option become unavailable, the entire cost for removal and remediation would fall on Pennsylvania taxpayers.

### **Comments**

As the Commonwealth's energy priorities continue to shift away from traditional fossil fuel sources, we must deal with the legacy from historic mining operations that powered our country during the previous century. Coal mining companies continue to struggle and close, many in bankruptcy, while funds available for reclamation regularly prove insufficient to adequately reclaim former mining sites. The coal refuse reclamation to energy industry is a market-based, alternative energy solution to this problem that if preserved can save the state over \$5 billion in environmental remediation costs.

The "fuel cycle" process makes coal refuse reclamation to energy facilities some of the most reliable electric generation resources in the market. Coal refuse fuel sites are generally physically located within close proximity to the plants. Due to the rural location of most coal refuse pile sites, the coal refuse and beneficial use ash are transported to and from the sites by trucks that are owned by the plant operator or contracted through local companies. Additionally, coal refuse energy facilities generally maintain multiple days of fuel on site to allow for continuous operation even in severe weather conditions.

The Commonwealth has supported the coal refuse reclamation to energy industry since its inception in the 1980s. All but one of the waste coal-fired facilities located in Pennsylvania originally operated under a power purchase agreement ("PPA"), which during the PPA term financially supported and encouraged these plants to operate at their maximum capacity. However, all of these PPAs expired during the prior decade. Once the PPAs expired, many of these plants struggled to compete in PJM's competitive energy market that fails to recognize the positive externalities of these facilities.

Market and regulatory challenges have altered the economics of the industry. In addition to broader commodity market drivers, legislative initiatives in various PJM states have been enacted with the effect of also suppressing wholesale market prices. Wholesale energy prices have often been below the “breakeven” point required for coal refuse reclamation to energy plants to simply recover their cost of production.

The mismatch between energy market revenue and operating costs previously led to the closure of 5 of the original 15 Pennsylvania coal refuse reclamation to energy plants, resulting in a significant decline in operations and annual economic and environmental benefits to the Commonwealth. Most notably, between 2018 and 2020, Pennsylvania witnessed the permanent closure and demolition of the Cambria Cogen, Wheelabrator Frackville Energy Company, and Northeastern Power Company (NEPCO) facilities. That environmental remediation, reclamation, and energy generation capacity is forever lost to Pennsylvania. However, with sufficient economic support, these facilities should be capable of completing mine land reclamation and electricity production at a level equal to historic industry operating capacity.

Therefore, more recently the General Assembly has seen fit to provide additional support for this industry through the Coal Refuse Energy and Reclamation (CRER) Tax Credit and inclusion in the Alternative Energy Portfolio Standards (AEPS) in recognition of the tangible and significant environmental benefits this industry provides the Commonwealth. These programs have helped to stabilize the industry in recent years, but lingering uncertainty in the PJM wholesale energy and capacity markets continues to limit the industry from reaching its peak operating capacity.

In 2010 and prior, nearly all of the coal refuse reclamation to energy facilities regularly operated at over 80-90 percent capacity. During this timeframe, most of these facilities were operating under PPAs which guaranteed sufficient revenue to incentivize baseload operation. For facilities without PPAs, wholesale electricity prices supported higher operations during this time.

The remaining 10 facilities still operating today have a combined net operating capacity of 1,196 MW. Operating at their maximum net operating capacity, these facilities could produce up to 10,556,676 megawatt hours (“MWh”) annually, while operating at an 80-90 percent net capacity rate can produce annual generation between 8,445,341 MWh and 9,501,008 MWh. If each of these coal refuse energy facilities were to operate at its historic maximum net operating capacity, they would produce 8,604,477 MWh annually.

Looking at historical operating data over the past 20 years, every currently operating coal refuse energy facility produced at over a 70 percent capacity rate with four of them exceeding a 90 percent capacity factor. These facilities should have the ability going forward to again operate at higher levels due to the financial support from increased AEPS prices and the CRER tax credit. However, as these facilities all now operate without market guaranteed PPAs, properly functioning wholesale energy and capacity markets remain critical to the continued operation of these facilities.

The most recent coal refuse energy facility in Pennsylvania was constructed in 2004. Unfortunately,

no new coal refuse energy resources are planned at this time. While the industry has proven environmental and energy benefits, the current state and federal environmental regulatory scheme makes it nearly impossible to construct a new coal refuse energy facility even with sufficient economic support.

### **Conclusion**

ARIPPA appreciates the opportunity to provide comments on the importance of the coal refuse reclamation to energy facilities to resource adequacy in Pennsylvania. In considering the reliable and environmentally beneficial electric generation benefits of this industry, the Commission should not overlook the positive environmental benefits to land, air, and water provided by the industry, as well as the economic benefits of sustaining the operation of these facilities.

ARIPPA appreciates the Commonwealth's unwavering support for the coal refuse reclamation to energy industry. The long-term public-private partnership between the Commonwealth and the coal refuse reclamation to energy industry as part of Pennsylvania's mine land reclamation efforts has produced some of the most significant AML remediation in the state over the past three decades. With the long-term sustainability of the remaining ten coal refuse reclamation to energy facilities improved by the state's support of the industry in recent years, the industry looks forward to continuing its partnerships with the Commonwealth and environmental organizations to eliminate the remaining ground, air, and water pollution from the legacy of coal mining in Pennsylvania.

Therefore, ARIPPA encourages the Commission to consider the importance of the coal refuse reclamation to energy industry on both resource adequacy and environmental remediation of historic mining communities in Pennsylvania. If the Commission has any questions about these comments, please contact me at 717-763-7635 or the address set forth below.

Respectfully submitted,

A handwritten signature in black ink that reads "Jaret A. Gibbons". The signature is written in a cursive, flowing style.

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