

The Success of Remining In Pennsylvania

Thomas E. Kovalchuk

PA DEP

Abstract

The Remining Program Staff in Pennsylvania's five district offices successfully worked with the Coal Industry to cooperatively permit remining sites increasing reclamation of abandoned mine land. There are six reclamation programs designed to facilitate remining and reclamation; Government Financed Construction Contracts (GFCC), Miscellaneous Reclamation Projects, No Cost Contracts, Reclamation-in-Lieu of Civil Penalty Agreements, Remining Permits and Surety Reclamation Agreements.

Active mining drives reclamation while the Regulatory Authority (RA) is tasked to reduce regulatory red tape and insure that the overall remining program operates effectively while making progressive amendments to the program as necessary. The financial benefit of resource recovery while remining increases the AML acreage reclaimed and saves funding for other hazardous reclamation projects where there is no coal to be mined.

The Department of Environmental Protection, Bureau of Mining and Reclamation has been keeping track of the amount of acreage of abandoned mine land reclaimed at surface mines and the value of that reclamation. Over the last seven years, 118.11 miles of highwall have been eliminated and 16,523 acres have been reclaimed and, using PA's Bureau of Abandoned Mineland Reclamation (BAMR) engineering estimates as the cost basis for calculating reclamation, \$116,567,620 dollars have been saved by the Commonwealth.

Introduction

The coal mining industry funds reclamation through a 35-cent per ton coal tax. The remining program helps reserve Pennsylvania's Federal Grant allotment for BAMR to use for sites that cannot be economically remined. The mining history in Pennsylvania is similar to other states in Appalachia where abandoned mine features are unreclaimed everywhere there are coal measures. To increase the reclaimed acreage rate the RA must creatively and flexibly cobble together programs to maximize remining opportunities.

The remining programs later described work with little to no funding from the Government. The active coal industry in Pennsylvania has since 1/1/1998 reclaimed 16,523 acres. The Pennsylvania mining staff and the coal industry reclaimed many sites that would not have been reclaimed by using regulatory tools that developed out of a need to facilitate permitting and subsequently increase remining. By having a toolbox with various programs at hand, the appropriate tool or combination of tools can be used to match idiosyncrasies in designing remining plans.

The following chart lists ‘tools’ used to enhance the reclamation program in Pennsylvania.

Remining and Reclamation Programs in Pennsylvania

	Miles of Highwall	Acreage Reclaimed	Project Value
GFCC	6.82	780.59	\$4,508,790
Misc. Reclamation Projects	1.06	53	\$445,800
No Cost Contracts	0.21	132.8	\$712,600
Re-in-lieu of Civil Penalty	0.83	92.6	\$1,123,187
Remining Program	107.75	14386.39	\$95,893,987
Surety Rec	1.44	1095.8	\$13,883,256
Total	118.11	16541.18	\$116,567,621

Data range run 1/1/1998 – 2/10/2005

The programs are described below.

GFCC

The Government Financed Construction Contract Program was implemented through an OSM title IV Abandoned Mine Land Program Amendment, which was submitted to OSM by PA Department of Environmental Protection (DEP) on November 19th, 1997, and approved on March 26th, 1999.

The GFCC program is a contractual obligation between the state and an operator with no funding from the government. The value of the coal finances the reclamation. The incidental and necessary amount of coal to be removed and cost of reclamation are reported in the plan provided by the operator in the early stages of project review. Data collected by drilling or test pits are the basis of the plan. The department uses the coal value, the cost of obtaining a mining permit and reclamation costs when comparing the State’s bid/reclamation/administration costs to the operator’s plan costs. Using Pennsylvania Bureau of Abandoned Mineland Reclamation (BAMR) engineering costs compiled in the last two years of let contracts for reclamation at AML sites, we compare our data to the engineering estimates provided by the operator or their consultant.

Some obvious controlling factors that affect the progress of the program and vary the scale of each project are evident. Variables include the size and type of machinery owned by the operator used to complete the project and the often-unknown volume of coal that can be confirmed by drilling and excavation. Overburden influences the sites that can be profitably reclaimed, for instance, blasting is possible at these sites, but a much larger margin in coal value is required to make a blasting site possible. There are many others factors but market forces rule participation.

Site Conditions that must be met for GFCC consideration:

1. The site really needs to be reclaimed.
2. The coal removal must be incidental and necessary to complete the reclamation.
3. It is unlikely that an operator could get a regular Surface Mining Permit for the area.
4. To be considered the area must have obvious highwalls, spoil piles or subsidence features.

Bonding a GFCC differs from a Surface Mining Permit (SMP); a performance bond is used instead of a penal bond. The Department requires the site to be bonded at 110% of the cost of completion of the contract. If the department should have to step in to complete the reclamation, enough Bond is available. Separate bond instruments are used when the site is reclaimed and seeded and mulched the 100 % Bond is released. A Warrantee Bond that is 10 % of the value of the project is required until final vegetative cover is established.

Qualifying to participate in the GFCC program is simple. Licensed Contractors and Mining Operators qualify if proper insurance requirements are met passing Pennsylvania's licensing and bonding needs. All contractors and operators must undergo federal and state compliance checks to assure they are not in violation anywhere for coal operations.

The GFCC's process requires upfront coordination and a meeting in the field at each site with personnel from the Federal Office of Surface Mining (OSM), the State's BAMR program, District Mining Operations and the Operator with their Consultant. Cooperation and open discussion have gone well in the field to resolve any conflicts and eliminate individual guideline interpretation conflicts. Most issues on these projects are resolved in the field meetings.

GFCC projects have filled deepmine shafts, slope entries, and demolished mining buildings and removed gob piles. At many sites subsidence features were eliminated and dangerous highwalls were regraded. These projects are often close to populated areas where mining is usually impossible due to barrier restrictions, utilities, streams etc. The contractual process enables operators to work in these areas to reclaim. Where mining patch towns were historically part of the mining operation, they were and some still are surrounded by refuse and waste areas that would not be reclaimed due barrier restrictions and lack of funding from the government. The GFCC program continues to clean up these areas. Since 1999, 77 projects have been completed reclaiming 774 acres of abandoned mine features and \$4,468,790 has been saved by Pennsylvania using this program.

Miscellaneous Reclamation Project

Three projects have been completed where adjacent remining and abandoned mineland pits where highwalls were filled with co-generation fluidized bed ash (very high % limestone) and the sites regraded to approximate original contour. Coal trucks used for hauling coal and refuse from adjacent sites to the co-generation plants hauled back ash on return trips to the coal pit. The ash from the ash generator is pre-approved for this particular use through a beneficial use permit from DEP's Bureau of Waste Management.

No Cost Contracts

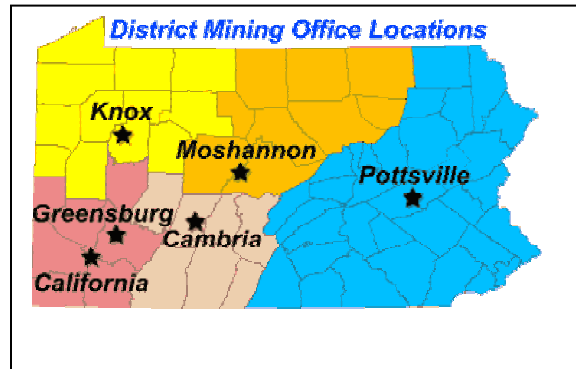
This program category is the pre-cursor to the development of the GFCC program and was used to write individual contracts to remove refuse piles with complete haul outs or total refuse pile removal with reclamation and revegetation. All of the environmental issues are spelled out in the contracts and each is reviewed and approved by Department's Attorneys prior to signatures. The paperwork is time consuming but very flexible and can change with any need to prevent problems in field implementation. Contracting is still being used to remedy situations where a permit is not appropriate. If no other means of control is possible the commonwealth has an obligation to protect public health and safety through contract. Environmental enhancement is possible with a contract. Contracts are not used as frequently because the GFCC program has filled the niche in most cases. 132 acres were reclaimed using contracts most of which were small, scattered spoil piles. The savings to the Commonwealth is \$712,600.

Reclamation-in-Lieu of Civil Penalty

The compliance staff has developed the Rec-in-Lieu of civil penalty program. When violations occur on an active SMP a fine can be levied. When a fine amount is negotiated, an opportunity arises for practical solutions to reclaim abandoned mine land. Before a fine is assessed, negotiations occur where agreement is made for remediation of the violation and fine amounts are agreed upon. During these negotiations if there is an opportunity to reclaim an abandoned mine land feature close to the active job or in the watershed of the operation then a consent order and agreement can be used to get the work done at a lower cost than the Department contract bid and faster than if it were on the normal prioritized AML list for reclamation. The operator has a choice either they can pay the fine or complete a reclamation project of greater value, to the Department, replacing the fine. The Violation is still on the record for the amount negotiated. The reclamation must be a permanent environmental enhancement preferably reclaiming an AML feature. Rec-in – Lieu of Civil Penalty funding has been used for stream restoration and flood control. When adjacent areas are not available the local watershed is reviewed for potential sites and if no remediation sites are available the inspector oftentimes knows of problem areas in his district and can steer the operator to those sites.

The numbers look a little odd for this in that most of the programs mentioned in this paper have no cost to the commonwealth. For this category there is a cost to the Commonwealth of \$875,857 compared to a project value of \$1,123,187. If a person considers a fine the Commonwealth's money then the State pays something for the reclamation but the value of the reclamation is more than the fine assessments in almost all cases, so the trade off is well worth the 'cost'.

Remining Permits



Reported in the chart below is the distribution of remining by PA District Mining Offices.

	Miles of Highwall	Acreage Reclaimed	Project Value
Ebensburg	32.73	2700.35	\$7,999,477
Greensburg	10.21	1239.6	\$6,696,849
Knox	28.92	1393.7	\$10,341,763
Moshannon	32.96	2339.4	\$10,129,598
Pottsville	2.03	6676.34	\$60,711,900
Total	106.85	14349.39	\$95,879,587

Data range run 1/1/1998 – 2/10/2005

The most productive program for bringing AML land back to full productive use in Pennsylvania is the Remining Program.

Sub-F permits limit liability for Operators from degraded water emanating from abandoned mines allowing them to mine previously affected acreage. Sub-F can be risky for climatologic and statistical reasons but work well if the established baseline is valid and water is managed properly on site during mining. A larger data requirement to establish a statistically valid baseline covering at least one water year must be collected when Sub-chapter F is used taking more time at greater expense.

The Sub-F program has shown good results when the operators mining around deep mines and abandoned surface mines manage and control the water.

Pennsylvania's mining industry reclaims more area with regular mining permits than any other category. Using common sense and water quantity and quality control techniques learned from industry coupled with knowledge gained from scientist's work at mines of varying complexities and conditions the RA staff has evolved to be open to innovative techniques. Staffs continue to build an inventory of engineering options when new mining plan problems arise. The basis for all plans is the permit review process where careful collection and reporting of overburden analysis, water monitoring, and geologic and hydrologic information is essential. Using available techniques such as special

overburden and toxic materials handling plans, water handling principles, alkaline redistribution, alkaline addition, beneficial use ash, biosilids and revegetation and mining plans to affect water chemistry in various combinations have led to a positive outcome at remining sites. Geologic structure, stratigraphy, geochemistry and hydrology dictate the appropriate mining plan for successful remining.

A new stimulus for remining is the construction and operation of Cogeneration Plants. Since refuse from underground mining was piled on the surface it is a readily available resource and both Permits and GFCC's have routinely been issued for mining course refuse piles and slurry impoundments.

By the State reducing costs by partially funding through our Remining Operators Assistance Program and the Remining Financial Guarantee Program and always looking developing new programs specifically for reclamation, the active mining community has reclaimed 14,368 acres for a savings to the state of \$95,893,987.

Surety Reclamation

The development of Surety Reclamation concepts occurred naturally from the accounting bottom line perspective of the Surety Companies. If the Department forfeits the bond for a minesite or sites underwritten by the surety, their bottom line is affected. If the Surety can do the reclamation and take less of a loss they are amenable to the idea of doing the reclamation work themselves. The bonding company is given the opportunity to contract to reclaim the sites left by the operator to be forfeited. The operator is not vindicated in these cases and the forfeiture is kept on the operators record.

The Department has completed global settlements where the operator had multiple sites with various liabilities and excess bond on some mine sites and not enough on others. Combining the total bond amount for all sites for settlement and allowing the Surety to reclaim eliminates liability for the Commonwealth. Forfeitures will continue due to many factors affecting this industry.

The program cost to the Commonwealth \$6,636,650 is offset by the reclamation we would have had to pay for to eventually reclaim which amounted to \$13,883,256.

Summary

Pennsylvania Remining success is achieved by implementing multiple remining and reclamation programs in combination or alone creating a non-obstructionist regulatory environment where solutions to permitting problems can be addressed where the RA facilitates remining rather than being constrained by a limited options inflexible framework. The program since 1999 has eliminated 118.11 miles of highwall and reclaimed 16,523 acres of abandoned mine land with a total statewide value of \$116,567,621. Additional information about our mining program can be found at our web site. <http://www.dep.state.pa.us/dep/deputate/minres/bmr/programs/>