

**DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
**Bureau of Mining Programs**

**DOCUMENT ID:** 563-2504-001

**TITLE:** Conventional Bonding for Land Reclamation - Coal

**EFFECTIVE DATE:** Upon publication of notice as final in the *Pennsylvania Bulletin*.

**AUTHORITY:** Surface Mining Conservation and Reclamation Act  
Coal Refuse Disposal Control Act

**POLICY:** The Department will require coal mining activities to be bonded in an amount that covers the Department's cost to complete the site's reclamation plan.

**PURPOSE:** This guidance describes the regulatory and statutory requirements for determining bond amounts. It also establishes bond rates and the process for determining the bond for land reclamation.

**APPLICABILITY:** This guidance applies to all anthracite and bituminous coal mining permits.

**DISCLAIMER:** The policies and procedures outlined in this guidance document are intended to supplement existing requirements. Nothing in the policies or procedures shall affect regulatory requirements.

The policies and procedures herein are not an adjudication or a regulation. There is no intent on the part of the Department to give these rules that weight or deference. This document establishes the framework, within which the Department will exercise its administrative discretion in the future. The Department reserves the discretion to deviate from this policy statement if circumstances warrant.

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## DEFINITIONS

*ABS* – the alternate bonding system.

*AML* – abandoned mine lands.

*BAMR* – the Bureau of Abandoned Mine Reclamation. This bureau of the Department of Environmental Protection bids and contracts the reclamation of abandoned mine lands and pre-primacy forfeited mine sites.

*Bond Rate Guidelines (BRG)* – the costs for given unit operations in land reclamation as published by the Department in the *Pennsylvania Bulletin* and used as the basis for determining bond amounts under the conventional bonding system.

*CRDCA* – the Coal Refuse Disposal Control Act. This is the Pennsylvania statute covering the disposal of coal refuse. (52 P.S. §§ 30.51-30.66)

*CSL* – the Clean Streams Law. (35 P.S. §§ 691.1-691.1001)

*Department* – Pennsylvania Department of Environmental Protection.

*Inflation Rate* - The average rate of inflation based on the average Consumer Price Index for Northeast Urban Areas (CPI) for the previous five-year period. The average inflation rate will be published by the Department in the *Pennsylvania Bulletin* with the Bond Rate Guidelines.

*Remining financial guarantee* – an alternative financial assurance mechanism which may be issued in a sum-certain amount by the Department to eligible operators participating in the Remining Financial Guarantee Program.

*Land reclamation* – in the context of the conventional bonding system, land reclamation is the suite of activities needed to accomplish reclamation, e.g., backfilling, grading and planting, under the approved reclamation plan. It also includes the demolition of structures and sealing of boreholes and mine openings. It does not include the abatement or treatment of post mining discharges that occur during or after the permit term or activities necessary to address the impacts to land or water (including loss, diminution, or degradation of water supplies) resulting from mine subsidence.

*Mining area* – in the context of the conventional bonding system, this is the portion of the permit area on which mining and reclamation activities are authorized.

*Multiple bench* – this term applies to operations wherein the cross section looks like a set of steps, as opposed to operations with one highwall. This term does not apply to those operations with a highwall that has been developed with a “safety bench.”

*Operational area* – in the context of the conventional bonding system, the Operational Area is the maximum portion of the permitted area that the permittee is authorized to disturb at any specific time. The Operational Area is described in the permittee’s mining and reclamation plans. The Operational Area must include all of the land affected by mining activities that is not planted, growing and stabilized. The various sub-units of the Operational Area are used with the Bond Rate Guidelines to

calculate the sum of the permittee's liability for mining and reclamation activities. The sum of the permittee's liability for mining and reclamation activities determines the amount of the bond. The Operational area may float (move) throughout the approved Mining Area within the Surface Mining Permit (SMP).

*OSM* – the United States Department of the Interior, Office of Surface Mining, Reclamation and Enforcement. It is the federal agency designated to implement the provisions of the federal Surface Mining Control and Reclamation Act of 1977.

*Permit* – a permit for coal mining activities issued under the following Pennsylvania statutes: the Surface Mining Conservation and Reclamation Act, the Coal Refuse Disposal Control Act and the Clean Streams Law.

*SMCRA* – the Surface Mining Conservation and Reclamation Act. This is the Pennsylvania statute covering the surface activities of coal mines. It covers both anthracite and bituminous mines. (P.S. 52 §§ 1396.1-1396.31)

*Unit costs* – in the context of the conventional bonding system, these are the costs for the individual unit operations that make up land reclamation and are based on the actual costs incurred by the Department to complete reclamation or based on other appropriate sources. Examples of unit operations are grading, topsoil replacement, and planting.

## BACKGROUND

For almost 60 years Pennsylvania law has regulated surface mining, and has required some degree of land reclamation. For most of the same period it has also required bonds, in changing amounts and formats, to ensure the required land reclamation. The current requirements for both land reclamation and bonding are found in the Surface Mining Conservation and Reclamation Act (SMCRA) (52 P.S. §§ 1396.1-1396.31), the Coal Refuse Disposal Control Act (CRDCA) (52 P.S. §§ 30.51-30.66) and the Clean Streams Law (CSL) (35 P.S. §§ 691.1-691.1001). These acts require a bond to be filed prior to commencement of mining, and to be conditioned “that the permittee shall faithfully perform all of the requirements” of SMCRA, the CSL and other applicable statutes. (SMCRA § 4(d); CRDCA § 6(a); CSL § 315(b)). One of these requirements is to ensure the implementation of the restoration measures assuring there will be no polluting discharges after mining ceases. The land reclamation ensures there will not be pollution from erosion. The permit will not be issued if there is evidence there will be a post mining discharge.

The conventional bonding system is based on the mine operator’s description of the maximum amount of reclamation needed during the term of the permit. The proposed dimensions of the mining activity are combined with bond rate guidelines to calculate the total bond. The Department developed bond rate guidelines using actual bid costs submitted for abandoned mine lands and forfeited mine sites reclamation contracts and other appropriate sources. Revised guidelines will be published in the Pennsylvania Bulletin annually.

~~This Technical Guidance Document has been revised.~~

## **PROCEDURES**

### **I. GENERAL**

Terms and conditions of bonds are unchanged by the implementation of this guidance. The minimum amount of bond remains \$10,000 for bituminous mines and \$5,000 for anthracite mines.

The conventional bonding described by this guidance covers permits for surface coal mining, coal refuse reprocessing, coal refuse disposal, underground coal mining and coal preparation plants. It does not include water supply replacement bonds issued in accordance with Technical Guidance Document #562-2500-702, *Insurance Requirements and Water Supply Replacement Assurance*. It also does not include bonding to address impacts to land or water resulting from mine subsidence under the Bituminous Mine Subsidence and Land Conservation Act.

### **II. SETTING BOND RATE GUIDELINES**

#### **A. Discussion**

Pennsylvania's mining laws, SMCRA, CRDCA and CSL, provide the basis for conventional bonding. The conventional bonding system incorporates the bonding obligations of those acts and the regulations and considers the following:

The bond amount is the cost to the Commonwealth for hiring a contractor to complete the permitted reclamation plan to regulatory standards. It reflects the Commonwealth's maximum responsibilities under the approved operation and reclamation plan for land reclamation.

Permit approval requires a finding that there is "...no presumptive evidence of pollution to the waters of the Commonwealth..." (25 Pa Code § 86.37(a)(3)). Consequently, post-mining pollutional discharges of mine drainage are not anticipated in the reclamation plan. The calculation of the initial bond amount for a coal mining permit does not include costs for the treatment of mine drainage or anything not anticipated in the approved permit and reclamation plan.

The operation and reclamation plans in the coal mining permit application describe how the operator will mine and reclaim the site. The Department relies upon the operator's plans, plus site-specific special conditions, when calculating the total bond. The Department will consider, but not necessarily rely upon, cost estimates provided by the applicant

Many factors contribute to the design of a mine site. This guidance and the Bond Rate Guidelines (BRG) do not attempt to anticipate all the possible scenarios. Department personnel are expected to handle each case by giving as much deference as possible to the operator's plans. If the methods of mining or operation change, standards of reclamation change, or the cost of reclamation, restoration or abatement work increases, the Department will require the permittee to recalculate the bond.

Under the conventional bonding system the applicant will predict the maximum extent of the disturbed areas based on site conditions and the operation and reclamation plans in the permit application. Regulatory requirements for plans and minimum performance standards are found in 25 Pa. Code Chapters 86-90. The total bond is calculated using the unit costs for the various operations necessary to complete the reclamation plan.

Conventional bonding requires two distinct kinds of calculations. First is the calculation of the costs for the different unit operations typically needed to complete land reclamation. These are called the Bond Rate Guidelines (BRG). Second is the application of the BRG to the operator's proposed mining activities to arrive at the bond amount.

## **B. General Methodology**

The Department has set the BRG using unit costs developed from contracts to reclaim abandoned mine land and forfeited sites. The unit cost for a specified unit operation was obtained by averaging the three lowest unit costs for that unit operation from each contract awarded in the last three years.

In the event that a given unit operation was not adequately represented in the preceding three years, then any additional cost information available was used. If enough data was still not available, the rate was set from a standard reference like "*Means Building Construction Cost Data*." Occasionally, specific unit costs may be adjusted using information provided by BAMR and other stakeholders.

The Department will establish the BRG annually, as required by 25 Pa. Code § 86.145, and will publish the BRG each year in the *Pennsylvania Bulletin*.

## **C. Additional Considerations**

Not all unit operations included in the BAMR database are included in the BRG. For example, the "Clearing and Grubbing" unit operation is not normally applicable to reclamation of bond forfeiture sites. Other unit operations listed in the database were combined to streamline the BRG.

Several unit operations deserve special explanation. Two of these involve grading for the purpose of backfilling and replacing topsoil. Typically, costs for grading are based on the volume of material in cubic yards to be moved and consider, among other factors, the type of equipment to be used and the distance that material must be moved. The distance is easily determined from the operations map by measuring from the outside limit of spoil to the highwall.

The lower unit cost for grading listed in the BRG was based on the presumption that the spoil is pushed into the excavation. The higher unit cost for grading was based on the need to load and haul the spoil. The break point between these two is 500 feet, which is roughly the maximum distance spoil is typically pushed with a large dozer.

Another unit operation that involves grading is called selective grading. This unit operation is used for removing, or grading out, ditches, roads, storage areas and other features that have the earthen material within or adjacent to the feature.

The other unit operation needing an explanation is the cost per stem for tree planting. Since most site reforestation by BAMR on primacy forfeitures has been done under an agreement with the Department of Conservation and Natural Resources, Bureau of Forestry, the unit cost for tree planting is based on pricing information from the DCNR Penn Nursery.

#### **D. Mine Sealing/Boreholes**

Bond amounts for sealing drifts, shafts, and slopes will be determined based on the actual amount of labor and materials required to complete the sealing of a bituminous underground opening and the units costs ascribed to performing individual components of that work. Sealing plans and cost estimates included in bituminous underground mine permit applications and contracts awarded for sealing abandoned mine openings were reviewed. Based on this information, five components were identified that describe the work performed in sealing a drift or slope opening and five similar components were identified that describe all work involved in sealing a shaft opening. In the case of a drift or slope opening, the basic components of sealing work include mobilization, installation of security fencing, concrete work, masonry work, and placement of fill and earthwork. In the case of a shaft opening, the basic components of sealing work include mobilization, installation of security fencing, placement of concrete, placement of aggregate and placement of fill and earthwork. Differences in work components reflect differences in the nature of mine openings and methods of seal installation (drifts and slope openings are horizontal to slightly inclined; shafts openings are vertical).

After establishing the basic components of the work, information was gathered to establish unit costs for each of the components. This information was obtained from sealing cost estimates submitted with recent permit applications, reclamation contracts, *Walker's Building Estimator's Reference Book*, the *Means Estimating Book* and labor rates maintained by the Pa. Department of Labor and Industry. As the final step, these unit costs of each component were adjusted to current dollars using labor rates compiled by the United States Department of Labor's Bureau of Labor Statistics (<http://www.bls.gov/cpi/>) and material cost indices, published in the *Engineering News Record*.

A similar approach was used in developing bond rate guidelines for boreholes. Cost information was gathered from sealing estimates included in permit applications and contracts for mine site reclamation. The conclusion was that bond rate guidelines for borehole sealing should be based on cost per-foot of depth with a minimum total cost per borehole. The unit cost figures derived from the analysis were subsequently adjusted to account for inflation.

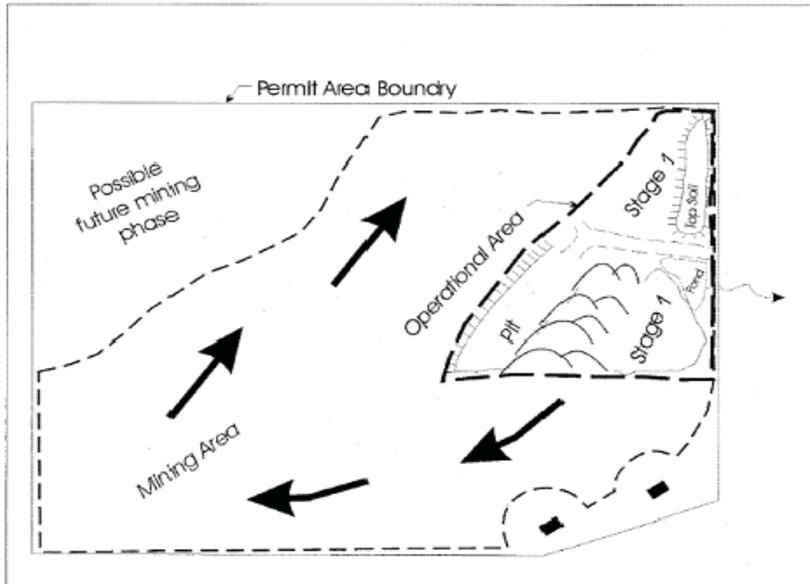
### III. CALCULATING SITE-SPECIFIC BOND AMOUNTS

#### A. Operational Area Concept

The conventional bonding system utilizes the concept of an operational area that involves bonding a pit or extraction area at one rate to cover the grading and revegetation obligations. The area reclaimed to Stage 2 standards is bonded at another lower rate to cover the Stage 3 maintenance period. Under this concept, the location of the pit moves within the Mining Area. The concept diminishes the importance of delineating the exact location on the permit where mining activities are occurring at a given point in time.

Using this approach for the conventional bonding system, the operator delineates the total area to be bonded and affected by surface mining activities on the operations map (Exhibit 9 in the permit application). This is called the Mining Area. The operator must describe the size and characteristics of the mining activities that comprise the Operational Area such as the maximum volume of open pit(s), the size of the pit and spoil area, the area needed for support activities, the areas in the process of being reclaimed, and the revegetation requirements. These factors are used to calculate the bond. Once an operator has posted the appropriate bond, which covers the Operational Area, then the Operational Area (mining activities) can move throughout the Mining Area. The approved dimensions (e.g. volume, area) of the Operational Area components will appear as special conditions in the permit. Figure 1 illustrates the relationships of the Operational Area, Mining Area and permit area.

Phased mining on permits is allowed. To phase an operation, the operator shows the phases on the operations map (Exhibit 9). The bond for the initial phase is calculated based upon the Operational Area within that phase only. The Mining Area becomes the initial phase. Consequently, the Operational Area (mining activities) must remain within that phase of the permit. Activating additional phases, i.e., increasing the Mining Area, requires the bond to be recalculated.



- Permit area boundary: Frequently based on property lines.
- ..... Mining area: Area on which mining is authorized.
- Operational area: Area affected by mining, support and reclamation activities, including area reclaimed to Stage 1 standards. Reclaimed area that is planted, growing, and stable is not included in the operational area.

**FIGURE 1**

The operator need only post the bond to cover the removal and reclamation of the ponds and features that are temporary. Ponds, roads and other approved features that will remain after mining and reclamation will not need to be included in the bond calculation. The unit costs for sediment control features will be addressed in the annual BRG.

**B. Bond Calculation Procedures**

The amount of the site-specific conventional bond depends to a great extent on how the operator chooses to mine the site. The operator’s mining plan determines the maximum possible liability on the site during the permit term. The operator identifies the volumes, area, and other measures of the unit operations in the operation and reclamation plans including the maximum disturbed area not planted. The permittee will submit their bond calculations using the bonding worksheet for mine sites (<http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-75368/5600-FM-MR0466.pdf>) and the bonding worksheet for structure demolition ([563-2504-001 / DRAFT December 02, 2011 / Page 8](http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-72089/5600-FM-</a></u></p>
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MR0467.pdf. The Department calculates the bond amount by applying the current BRG.

The total bond for the site is the sum of the costs for the component unit operations, ~~and~~ any indirect costs and adjusting the cost to take into account inflation. The bonds will be recalculated during the permit renewal. The permittee will have an option to have the bonds recalculated at the Mid-Term Review, in which case the number of years to adjust for inflation would be three (3) years and one (1) year beyond. If the operator chooses to recalculate the bond during the permit renewal then the number of years to adjust for inflation would be five (5) years and one (1) year beyond.

The formula for calculating the bond amount is:

$$\text{Total Site Bond} = (\text{Direct Costs} + \text{Indirect Costs}) * (1+E)^{\text{YRS}+1}$$

Direct Costs equal the sum of all the different unit operations times the appropriate unit cost listed in the BRG.

Indirect Costs are a percentage of the direct costs. Two types of indirect cost are considered in the conventional bonding system. They are mobilization/demobilization of equipment and the installation of erosion and sediment controls.

Inflation Rate (E) is the average rate of inflation for the previous five-year period as published annually in the *Pennsylvania Bulletin* with the bond rate guidelines.

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Mobilization/demobilization costs apply to every site. The cost for erosion and sediment control is not applicable in every situation and is calculated only when the reclamation plan calls for construction of temporary erosion and sediment control structures.

Conventional bonding requires bond for several kinds of activities previously not bonded. Bonds to complete stream, public road, and utility relocations may be required. Likewise, the costs to the Commonwealth to complete wetland mitigation or removal and demolition of structures, such as electric substations, need to be included in the bond amount.

Part of the Department's job is to make sure the operation and reclamation plans in the application can be feasibly accomplished as required by 25 Pa. Code § 86.37(a)(2). The Department will compare the information submitted by the operator with the other plans and data in the application modules. If the data on the *Bond Calculation Worksheet* conflicts with the application data or other information available to the Department, the Department will discuss the discrepancy with the operator. If unresolved, then the Department will apply the factors or dimensions that it considers appropriate and request bond.

In the event that an applicant declines to specify a volume and/or acreage, the Department will assume a regulatory maximum. For instance, if the applicant does not specify a pit size the bond will be based upon the regulatory maximum of 1,500 feet by 300 feet (457.2 meters by 91.4 meters) for the highest overburden on the mining area.

In any event, the Department will include a draft copy of the special conditions with the request for bond.

If a permittee disagrees with the District Office staff about the amount of bond needed for a permit, the dispute resolution process detailed in Appendix A will be used.

#### **IV. MAINTENANCE BOND**

When the permit area is eligible for Stage 2 release, a calculation for the maintenance bond needs to be done. This calculation is done using three components:

- Mobilization of the equipment that would be needed if corrective planting is required.
- A per acre bond rate for fixing vegetation or erosion failures.
- Reclamation for any remaining structures that are not approved to remain (most commonly sediment ponds).

Bond rate guidelines have been established for the equipment mobilization, the per-acre rate and the manner of calculating the cost to reclaim any remaining structures. There are three categories for the per acre rate that have been calculated. The per-acre bond rate will vary with the approved post mining land use. Most permit area post mining land uses (except cropland/pastureland/land occasionally cut for hay) will use the standard rate. Two rates for cropland areas are included in the bond rate guidelines. These are for areas that need to be seeded from year to year (e.g., row crops) and for areas that would not need to be totally replanted (e.g., pasture or land occasionally cut for hay).

At Stage 2 bond release the cost for the reclamation of remaining temporary structures, such as sediment ponds, must be calculated using a specific calculation. Up until the point where the permit is eligible for Stage 2 release, the BRG for pond reclamation is a flat rate. However, the bond needed for the reclamation of a sediment pond, if it remains at Stage 2 release, is calculated using the bond rate guideline for earth moving for the volume of the embankment plus the cost for revegetating the area affected by the pond removal. Similarly, the cost for removing the collection ditches also must be calculated and added to the bond amount.

#### **V. BONDING SPECIAL FEATURES**

##### **A. Structures Not Needing Bonds**

Under the conventional bonding system some facilities do not need to be considered in determining the bond amount. For instance, if the application includes releases to allow ponds or haul roads to remain as part of the post mining land use, then no bond is needed for their reclamation. Several scenarios are possible which can eliminate the need to bond certain activities:

- The activity is completed prior to mining. For example, the permanent relocation of utility lines; or the construction of mitigation wetlands prior to disturbing the existing wetland.
- The activity is bonded for reclamation by other agencies. An example would be the mining out and reconstruction of a public road. If the agency with control of

the road requires a bond for replacing or reconstructing the road then duplication of bonding by the Department is unnecessary.

- Buildings and structures for which the applicant provides the Department with an agreement or instrument allowing the structure to remain as part of the approved post mining land use.

#### **B. Coal Ash Placement**

A number of permits involve coal ash placement for reclaiming abandoned pits, i.e., the beneficial use of coal ash as fill material. These permits are typically found in the anthracite area. The purpose of the bond for coal ash placement is to cover and vegetate any coal ash that has been placed in the abandoned pit. The bond is not intended to cover the complete filling of the abandoned pit.

If coal ash placement has been approved under a permit, the operation and reclamation plans will identify the source and type of material to be used as the cover and growing medium and the plan for revegetation. Therefore, the bond amount is determined by the size of the placement area, in acres, the unit cost for select grading to shape the coal ash that has been placed, the unit cost for grading to cover the area with soil or other material identified in the reclamation plan and the unit cost for revegetation.

If a permit includes coal ash placement in an active pit, i.e., a pit the operator is responsible for reclaiming, the bond should be based on achieving the approved reclamation plan and the assumption that there is no coal ash on-site and that backfilling will involve only spoil.

#### **C. Coal Refuse Reprocessing**

The objective of the bond on refuse reprocessing operations is to stabilize and vegetate the operational area, i.e., the area affected by the reprocessing activities. For these sites, the bond is determined by applying the unit cost for select grading to reduce working faces and other areas affected by the operator, the unit cost for grading to cover the area with the soil or other material identified in the reclamation plan and the appropriate unit cost for revegetation. Reclamation of areas not affected by the operation is not the responsibility of the operator, even if those areas are on the permit area.

#### **D. Water Supply Replacement Bonds**

Section 3.1(c) of SMCRA requires mine operators to provide insurance to cover damage to public and private water supplies that the Department determines may be affected by the mining activities. This requirement applies only to surface coal mines and the surface facilities of underground coal mines, coal preparation plants, and coal refuse disposal operations. It is not applicable to damage to water supplies from underground mine workings or mine subsidence. A mine operator may use insurance coverage or a water supply replacement bond to provide financial assurance that water supplies affected by surface mining activities can be replaced. Technical Guidance Document 562-2500-702, *Insurance Requirements and Water Supply Replacement Assurance*, describes the policy and procedures for implementing this requirement. The water supply replacement bond

is a separate bond instrument. It is not included in the conventional bonding system and is not subject to staged bond releases and public notice.

**E. Bonding of Bituminous Underground Mines and Coal Preparation Facilities.**

Reclamation liability for bituminous underground mines and coal preparation facilities has been and will continue to be calculated at the time of major permitting actions rather than on an annual basis as described in Section V. The scope of reclamation work at these sites seldom changes between permit issuance and permit renewal. Any increase in the area of surface disturbance requires a permit revision and recalculation of the reclamation liability. These periodic calculations and corresponding bond adjustments are sufficient to address changes in reclamation liability as they occur over the life of the permit.

**F. Remining Financial Guarantees Bond Program**

The Department has developed a number of programs to address the environmental problems associated with abandoned mine lands (AML). For the Department, the most cost-effective program is remining. In remining, a mine operator re-affects and reclaims abandoned mine lands in order to extract the remaining coal.

The Department has developed several incentives to encourage remining. One of these is the Remining Financial Guarantees Program. This program allows the Department to provide remining operators with remining financial guarantees to satisfy part of their bonding obligation. The amount of a remining financial guarantee is based on the size of the remining area.

Early in the permit application process an operator may apply to the Department for participation in the Remining Financial Guarantees Program. The Department would be responsible to make an AML eligibility determination of the remining area, and calculate the Department's cost of reclaiming the AML site using the bond rate guidelines. The conventional bond for the permit will be calculated. The Department will issue a remining financial guarantee as part of the requisite bond in an amount equal to the cost of reclaiming the AML portion of the permit up to the operator and permit limits established in the Remining Financial Guarantee Program. The operator will provide a bond for the difference between the state-issued guarantee and the full conventional bond calculation for the permit.

**VI. REPORTING AND RECALCULATION OF BOND AMOUNTS**

**A. ~~Annual Review~~ Permit Renewal and Mid-Term Reviews**

The permittee will submit the bond recalculation during the permit renewal process. In addition to the required permit renewal recalculation, the permittee will have the option of submitting the bond recalculation at the Mid-Term timeframe. If the permittee chooses this option they will submit the information identified below no later than 90 days prior to the mid-term date. The Department will notify the permittee on the two-year anniversary of the permit issuance that the information must be submitted for the Mid-Term Review. The ~~Annual Review~~ Permit Renewal application and the Mid-Term

Review submitted by the permittee and reviewed by the Department is the mechanism that the permittee uses to document the reclamation progress accomplished on the permit as well as to document that the reclamation liability is equal to or below the cost for the Department to complete reclamation on the site (bond amount). ~~The permittee's submittal documents the notification to individual property owners about reclamation standards Stage 1, 2, and 3 achieved on their properties within the permit area.~~ The permittee also uses this mechanism to document which areas have been planted so the "5-year clock" can start on future Stage 3 achievements.

Because the conventional bonding system will generally eliminate incremental bond releases, the operator must provide a written notice to the owners at the anniversary of the permit issuance of properties on which Stage 1 or 2 reclamation was achieved in the preceding 12 months. The operator must provide the District Mining Office with a copy of this notice. The notice must inform the landowners of the reclamation and explain that they should contact the appropriate District Mining Office if they wish the Department to make a formal determination on the adequacy of the reclamation and have the right to appeal that determination. The permittee will still be required to submit the Annual Pond Certification annually. Copies of the landowner notifications and Annual Pond Certification will be due by the anniversary of the permit issuance.

~~At the Permit Renewal bond recalculation stage and during the optional Mid-Term bond recalculation stage, the permittee must submit Annual Review submittal needs to include~~ the following:

- ~~Documentation of landowner notification of reclamation completed on property.~~
- A Map indicating areas planted in last year (and when) and location of various units of the operational area documenting for the current operation the mining area, the current location and dimensions of the operating area, and areas reclaimed to Stage 1 or 2 standards since the last review. The map must be sealed by a Professional Engineer or Professional Land Surveyor.
- Comparison of current reclamation liability vs. bonded liability using the Conventional Bonding Bond Calculation Summary form (5600-FM-MR0436) with complete description of the calculations attached.
- The permittee must submit the bond recalculation at the specified timeframes until the pit has been completely backfilled. This would include sites that are being renewed for "Reclamation Only" where a backfilling liability still exists.

~~On each anniversary of permit issuance, and continuing until the entire site is planted, growing and stabilized, the operator will identify the current reclamation liability, and provide copies of landowner notification of reclamation completed in the last year.~~ Annual Review Total Site Bond calculations will be based upon the current BRG when the renewal or mid-term review is submitted and adjusting the cost to take into account inflation. If the permittee elects to recalculate the bonds at the permit renewal only, the number of years used to calculate amount of inflation will be five (5) and one (1) year beyond. If the permittee elects to also recalculate the bond at the Mid-Term the number of years used to calculate amount of inflation will be three (3) and one (1) year beyond, when the Annual Review is filed.

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The formula to adjust the bond to account for inflation is:

$$\text{Total Site Bond} = (\text{Direct Costs} + \text{Indirect Costs}) * (1+E)^{\text{YRS}+1}$$

Where:

- E = the inflation rate, expressed as a decimal
- YRS = the number of years until the bond will be recalculated

For permits that will have the bond recalculated at the permit renewal only, the formula will be:

$$\text{Total Site Bond} = (\text{Direct Costs} + \text{Indirect Costs}) * (1+E)^{5+1}$$

For Example: Total Site Bond = (\$90,000 + \$10,000) \* (1+0.022)<sup>6</sup> = \$113,948

For permits that will have the bond recalculated at the permit Mid-Term the formula will be:

$$\text{Total Site Bond} = (\text{Direct Costs} + \text{Indirect Costs}) * (1+E)^{3+1}$$

For Example: Total Site Bond = (\$90,000 + \$10,000) \* (1+0.022)<sup>4</sup> = \$109,095

Any request for an exemption from the Annual Review must be in writing, and received by the District Office by the anniversary date of permit issuance. If the Surface Mine Conservation Inspector (SMCI) concurs, then approval will be noted in either a letter to the operator or in an inspection report. An exemption waiver can be requested and granted for parts or all of the Annual Review submittal.

Examples of when an operator may request an exemption from the Annual Review reporting of operational liability include, but are not limited to:

- When operational liability has been calculated within the last 90 days
- When there have been no mining activities within the last year

Because the conventional bonding system will generally eliminate incremental bond releases, the operator must provide a written notice to the owners at the anniversary of the permit issuance of properties on which Stage 1 or 2 reclamation was achieved in the preceding 12 months. The operator must provide the District Mining Office with a copy of this notice. The notice must inform the landowners of the reclamation and explain that they should contact the appropriate District Mining Office if they wish the Department to make a formal determination on the adequacy of the reclamation and have the right to appeal that determination.

Rather than including inflation in the bond amount calculation, the Department will regularly evaluate the cost of reclamation. At each Annual Review the bond will have to be adjusted if there is a greater than 15% increase in the cost of reclamation liability. The Department will also evaluate reclaimed areas to determine if those areas meet the Approximate Original Contour (AOC), Stage 1 and 2 standards.

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~~When the permittee expands the operational area in conjunction with an Annual Review it is considered a permit revision and the 15% leeway does not apply.~~

If, at the expiration of the permit term, the operator chooses to renew a permit for additional mining or to continue mining, or there is still backfilling liability the bond amount will be recalculated using the current BRG when the renewal application is filed and will be adjusted for inflation until the next bond recalculation. ~~The 15% leeway does not apply to renewals.~~ The additional bond must be submitted and approved prior to renewal. The Department will evaluate reclaimed areas to determine if they meet AOC, Stage 1 and 2 standards. (Note: This provision includes renewal at 3 years for permits on which mining activities have not started.)

~~When revisions (those that require recalculation to the operational liability) are submitted with the Annual Review the 15% leeway does not apply.~~

## **B. Permit Revisions/Bond Adjustments**

Revisions that require recalculation of the operational liability or that affect the operation or reclamation plans can require a recalculation of the bond amount at current rates. Except for the addition of boreholes associated with underground mines, coal preparation plants and coal refuse disposal operations, the additional bond, if needed, shall be posted and approved prior to approval of the revision. Bonds for additional boreholes associated with underground mines, coal preparation plants and coal refuse disposal operations will be requested at permit renewal.

Bonds must be adjusted up or may be adjusted down if there are changes to the operational area or the reclamation plan. Bond adjustments involving land no longer proposed for disturbance or for revising the cost estimate for land reclamation are not considered bond releases subject to the provisions of 25 Pa. Code §§ 86.170-175. Some reasons for adjusting bond amounts are:

- Moving onto a new phase of mining where conditions can affect the cost of reclamation or adding area to the unreclaimed area. These are adjustments to the operational area.
- Barrier reductions that affect the cost of reclamation.
- Revisions to the approved operation or reclamation plan such as:
  - Leaving a road, pond, or other structure as part of the post mining land use.
  - Moving into higher or lower cover.
  - Changing the post mining land use.

A change in the mining area does not necessarily require an adjustment in the amount of bond.

## **VII. BOND RELEASE**

25 Pa. Code § 86.175(b) establishes the schedule for bond release. The amount of bond released may not exceed 60% of the total bond amount on the permit area, or designated phase of a permit area, upon completion of Stage 1 reclamation and approval by the Department.

Under the conventional bonding system, bond release can begin when the final pit is reclaimed to Stage 1 standards. At this time the operator may also request an adjustment of the bond down to the appropriate amount that was needed for the final pit at its maximum reclamation obligation and the other site conditions. The adjusted bond amount becomes the total amount of the bond from which the 60% is calculated. Bond adjustment and Stage 1 bond release may occur at the same time. In order for a bond adjustment to be approved for reducing the number of pits Stage 1 bond release criteria must be met. Additionally, the permittee may at this or any other time request final release of liability on any areas on the permit that meet Stage 3 standards.

Upon completion of Stage 2 reclamation, the Department may release an additional amount of bond while retaining an amount of bond sufficient to cover the cost of reestablishing vegetation and reconstructing drainage structures if completed by a third party.

The Department will release the final portion of the bond on the permit area or designated phase of a permit area after the standards for Stage 3 reclamation have been attained.

## VIII. MONITORING AND COMPLIANCE

Effective monitoring of an operation requires the SMCI to compare the operational liability used to calculate the bond with the conditions found on the site of the various components of the operational area used to calculate the bond. If the SMCI believes the operational liability exceeds the bond, the SMCI should direct the operator to verify the operational liability

In cases where the actual liability exceeds the amount of bond, the operator is issued an NOV or compliance order for violating permit conditions. ~~Severely exceeding the dimensions, i.e.,~~ If the liability is 15% or more than the bond, is a basis for cessation of additional overburden/coal removal, or coal refuse disposal until either additional bond is posted or reclamation has reduced the liability.

## IX. RECLAMATION FEES

The reclamation fee is to be based upon the maximum size of the operational area as described in the approved operation and reclamation plans. For permits with remaining financial guarantees, the reclamation fee will be reduced based on the amount of remaining area included in the mining area. For example, if the operational area is 10 acres and the remaining area on the entire permit is 6 acres, then the reclamation fee is due for 4 acres. If the remaining area is greater than the operational area, then no reclamation fee is due. If the permittee changes the operation and reclamation plan and the operational area is increased, then a reclamation fee will be required for the additional area. A Permittee is obligated to complete reclamation of the abandoned mine land area that has been used to justify using Remaining Financial Guarantees.

## APPENDIX A

### Dispute Resolution

When a dispute arises on the amount of bond calculated for the site, the operator may request a review of the calculation by the Permits Chief or the District Mining Manager. If following this review the dispute is not resolved, the operator can request that the Department establish an informal, three-person review board comprised of one Permit Chief or District Mining Manager from any of the other District Mining Offices, the Director of the Bureau of District Mining Operations or his designee, and the Director of the Bureau of Mining ~~and Reclamation Programs~~ or his designee.

Both the operator and the District Mining Office shall present their positions to the informal review board. The decision of this board is not binding on the operator. If, following the informal review board's decision, the dispute remains, the operator can choose to either provide the bond and appeal the permit issuance to the Environmental Hearing Board, or refuse to provide the bond and appeal the permit denial to the Environmental Hearing Board.

Failure of an operator to invoke the dispute resolution process does not affect the operator's right to challenge the bond amount in an appeal to the Environmental Hearing Board.