

Appendix C:

**Revised Bond Rate Guidelines for the Calculation of Land Reclamation Bonds on
Coal Mining Operations**



NOTICES

Revised Bond Rate Guidelines for the Calculation of Land Reclamation Bonds on Coal Mining Operations

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The Department of Environmental Protection (Department) announces revisions to the 2006 bond rate guidelines for anthracite and bituminous coal mining operations based on additional reclamation contract bid data. These revisions are effective July 1, 2006. The authority for bonding coal mining operations is found under The Clean Streams Law (35 P. S. §§ 691.1--691.1001); the Surface Mining Conservation and Reclamation Act (52 P. S. §§ 1396.1--1396.19a); the Coal Refuse Disposal Control Act (52 P. S. §§ 30.51--30.66); and the regulations promulgated thereunder at 25 Pa. Code Chapter 86, Subchapter F (relating to bonding and insurance requirements). The unit costs listed in these guidelines will be used in calculating the land reclamation bonds for surface coal mining operations including: surface mines, coal refuse disposal sites, coal refuse reprocessing sites, coal processing facilities, and the surface facilities of underground mining operations. The procedures for calculating land reclamation bonds are described in technical guidance 563-2504-001, "Conventional Bonding for Land Reclamation--Coal," which is available at the Public Participation Center on the Department's website at www.depweb.state.pa.us.

The Department may review the adequacy of bonds on existing permits based on the bond rate guidelines at any time. The Department will conduct these reviews before issuing permit renewals. The Department may conduct similar reviews at the mid-term of a permit and before approving a permit revision.

The bond rate guidelines do not apply to bonds assuring replacement of water supplies under section 3.1(c) of the Surface Mining Conservation and Reclamation Act (52 P. S. § 1396a(c)) or to bonds ensuring compliance with the requirements of the Bituminous Mine Subsidence and Land Conservation Act (52 P. S. §§ 1406.1--1406.21).

These revisions are the result of additional data on unit costs for reclamation bids during 2005. The 2005 data was averaged in with previous years' data to calculate the revised bond rate guidelines.

Substantial reclamation cost increases during 2005 resulted in an overall increase of the 2006 bond rate guidelines. The Department anticipates that reclamation costs will continue to increase, resulting in substantial increases in the 2007 bond rate guidelines. In light of these continuing reclamation cost increases, the Mining and Reclamation Advisory Board (MRAB) recommended that the Department continue to use the most current 3 years of reclamation cost data available to set the bond rate guidelines. The MRAB also recommended that the Department publish the bond rate guidelines on an annual basis by April 1 of each year. The Department agrees with the MRAB recommendations and will publish future bond rate guidelines using the most current data by April 1 of each year.

General Methodology

The Department developed the revised bond rate guidelines for 2006 from the unit costs for competitively bid contracts for mine reclamation. Contract bid data is available for various unit operations needed to complete reclamation of a mine site for the years 1998 through 2005. In general, a 3-year (2003--2005) weighted average was used to calculate the guidelines. Some categories required another approach due to limited data. For example, there were no contracts in 2005 that included R-3 rock used for channel lining. Therefore, the previously calculated guideline was used. During 2005, only 21.5 acres of selective grading was bid. Therefore, a 4-year weighted average was used for selective grading.

For most categories, the bond rate for a given unit operation is the weighted average of the three lowest total bids for each contract over a 3-, 4-, or 5-year period depending on the number of bids received. However, grading costs are calculated using a weighted frequency distribution in combination with the weighted averages and trend analysis.

The pond removal bond rate guideline for active phases of mining has been increased by 8% from the flat rate of \$3,500. This increase is based on an 8% increase in grading costs, which is the major cost in removing ponds. The Department will continue to calculate the costs of pond removal based on any increases of associated reclamation unit

costs, such as grading, in future bond rate guidelines.

In the event that a unit operation necessary to calculate a reclamation bond is not listed in Table 1, then any additional cost information available will be used. If enough data is still not available, the rate will be set from a standard reference like *Means Building Construction Cost Data* or *Walker's Building Estimator's Reference Book*.

The bond rate guidelines are available electronically at www.dep.state.pa.us/dep/deputate/minres/bmr/programs/bonding.htm. For background information and supporting documentation regarding bonding rate guidelines, contact the Bureau of Mining and Reclamation, Division of Monitoring and Compliance, P. O. Box 8461, Harrisburg, PA 17105-8461, (717) 787-5103.

Effective Date

The bond rate guidelines in this notice are effective July 1, 2006.

TABLE 1
Revised Bond Rate Guidelines
For Year 2006
Effective July 1, 2006

| Unit Operation | Unit Measure | Unit Costs (\$) |
|---|---|---|
| Mobilization/demobilization | Job | 4% of direct costs or \$40,000, whichever is less |
| Grading (< 500-foot push) | cubic yard | 0.65 |
| Grading (>= 500-foot push/haul) | cubic yard | 0.95 |
| Selective Grading | Acre | 1,300.00 |
| Revegetation | Acre | 1,350.00 |
| Tree Planting | Tree | 0.15 |
| Ditch Excavation | cubic yard | 4.60 |
| Jute Matting | square yard | 2.45 |
| High Velocity Erosion Control | square yard | 2.20 |
| R3 Rock Lining | square yard | 18.00 |
| R4 Rock Lining | square yard | 23.75 |
| R5 Rock Lining | square yard | 18.00 |
| Geotextile/Filter Fabric | square yard | 2.00 |
| PVC Lining ¹ | square yard | 9.50 |
| Subsurface Drain | lineal foot | 10.90 |
| Erosion and Sedimentation Control (Temporary Installation) | Job | Lump sum (5% of direct costs for site) |
| Pond Removal Active Phase ² | Pond | 3,800.00 |
| Erosion and Sedimentation Control (Temporary Installation) | Job | Lump sum (5% of direct costs for site) |
| Stage 3 Maintenance Bond Non-Cropland Areas (Land uses where crop yields are not required) | Acre | 100.00 |
| Stage 3 Maintenance Bond Cropland (not row crops) Pastureland or Land occasional cut for hay (excludes seed cost) | Acre | 550.00 |
| Stage 3 Maintenance Bond Cropland Area-Row Crops (includes seed cost) | Acre | 750.00 |
| Stage 3 Mobilization | Job | 2,500.00 |
| Pond Removal--Stage 3 | Cubic yards (Embankment volume) plus topsoiling and revegetation cost | Use < 500 grading for pond embankment volume plus topsoiling and revegetation cost for the area disturbed |

| | | |
|---------------------------------------|--|-----------|
| Ditch Removal--Stage 3 | Lineal Foot | 0.65 |
| Equipment Tire Removal and Disposal | Tire | 300.00 |
| Structure Demolition | Costs will be calculated using costs listed in the construction industry's latest annual cost publications, such as <i>Means Building Construction Cost Data</i> . | |
| | shaft (10 ft. or less diameter) | 1,400.00 |
| Mine Sealing ³ | shaft (11 to 15 ft. diameter) | 3,000.00 |
| Nonhydraulic shaft seal--inert fill | shaft (16 to 20 ft. diameter) | 4,500.00 |
| | shaft (21 to 25 ft. diameter) | 8,000.00 |
| | shaft (10 ft. or less diameter) | 7,600.00 |
| Mine Sealing ³ | shaft (11 to 15 ft. diameter) | 9,200.00 |
| Hydraulic shaft seal w/bulkhead | shaft (16 to 20 ft. diameter) | 10,700.00 |
| | shaft (21 to 25 ft. diameter) | 14,200.00 |
| Mine Sealing ³ | drift/slope | 3,900.00 |
| Nonhydraulic drift/slope seal | | |
| Mine Sealing ³ | drift/slope | 6,200.00 |
| Hydraulic drift/slope seal w/bulkhead | | |

¹ Typically used for lining of ponds or ditches crossing fill material.

² Unit cost not from BAMR bids, includes dewatering, grading, topsoil placement and revegetation.

³ Mine sealing costs are minimum costs. Additional costs per mine seal will be assessed based on specific design criteria, such as the thickness of the seal and the volume of backfill material required, using appropriate material, equipment, and labor costs from BAMR bid abstracts or from an industry-standard cost estimation publications, for example, *Means Estimating Handbook* or *Walker's Building Estimator's Reference Book*.

TABLE 2

Land Maintenance Financial Guarantee Fees for Year 2006

| | |
|---------------------|-----------------|
| Fee Category | Fee (\$) |
| Publication | \$1,000 |
| Administrative | \$ 300 |

KATHLEEN A. MCGINTY,
Secretary

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