

CENTRAL APPALACHIA

COAL MINING RECLAMATION

BONDING POLICY RECOMMENDATIONS



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Executive Summary

Bonding is a key feature of the Surface Mining Control and Reclamation Act (SMCRA), which has regulated surface mining issues since its passage in 1977. Bonding is supposed to be a safeguard so that reclamation will be completed, even if a company to perform the reclamation work. Unfortunately, that safeguard is not working as planned.

Two central problems with the SMCRA bonding requirements have emerged since the current bonding regulations were promulgated in the early 1980s. First, reclamation bonds frequently fail to reflect the actual costs of reclamation and, in particular, fail to cover the cost of long-term water pollution treatment. Second, the authorization of alternative bonding approaches such as self-bonds and pool bonds has left regulators without recourse in the event of mine operator bankruptcies.

The limitations of the self-bonding approach have, appropriately, received significant attention, including guidance and a proposed rule-making from the federal Office of Surface Mining Reclamation and Enforcement (OSMRE). In 2018, the United States Government Accountability Office recommended that Congress consider amending SMCRA to eliminate self-bonding. Other alternative forms of bonds are also highly problematic and must also be reformed in order to ensure that SMCRA's promise of full reclamation is met. Pool bonding, in particular, leaves taxpayers and local communities vulnerable to the threat of abandoned mines from insolvent coal companies.

The federal SMCRA statute and regulations authorize alternative forms of bonding. Some of the alternatives to full-cost bonding provide an enormous loophole that mine operators have exploited in an effort to save money. Self-bonding, for example, allows a mine operator to avoid posting any actual bond and instead is based on an evaluation of the company's overall financial health. Pool bonding allows several companies to pay only partial bond amounts into a shared pool. Recent mine operator bankruptcies have exposed the significant danger of these approaches to taxpayers who may have to make up any financial shortfalls and, in particular, to communities who live near the mines that lack full cost bonds. When a site lacks a full cost bond, it may not be fully reclaimed.

Bonding programs and requirements differ across Appalachian states. This paper seeks to analyze the existing rules for bonding in each of the four Central Appalachian states—Kentucky, Tennessee, Virginia, and West Virginia. The analysis will highlight what is and is not working in current bonding programs across Central Appalachia, as well as make policy recommendations at both the federal and state level to improve the programs. This is especially important considering the dramatic decline of the coal industry. Communities and taxpayers should feel confident that mine site reclamation will occur, and that the future viability of the land is ensured.

This analysis is based on information from OSMRE, as well as other state and federal agencies with applicable policies. We hope that this information will not only help citizens by creating a more transparent and accessible resource, but also encourage agencies that implement and enforce these policies to reconsider what is most beneficial to communities in the wake of the current economic realities in the region where mining has taken place. This paper will also list several policy recommendations at both the state and federal level that could improve the current situation and assure that residents of Appalachia are not faced with even more legacy costs of years of devastating mining.

Key Terms

Full cost bonding is a financial instrument capable of providing regulators with the full cost of reclamation as determined based on site specific calculations in the event the mine operator goes out of business without completing reclamation.

A **surety bond** is a promise by a surety or guarantor to pay one party (the SMCRA regulator) a certain amount if a second party (the mine operator) fails to meet some obligation. In the bonding context, the mine operator purchases the surety bond, and the surety is then responsible for paying the full amount of the bond to the regulator in the event the mine operator goes out of business or otherwise forfeits its permit without carrying out the required reclamation.

Self-bonding is a promise made by the mine operator that it will carry out all required reclamation and that it has the financial resources to do so. Self-bonds do not require the mine operator to post any collateral, or to obtain a commitment from a separate surety. In order to be eligible to self-bond, the company must satisfy certain financial criteria. In the event that a self-bonded mine operator goes out of business, the SMCRA regulator is responsible for 100% of the remaining reclamation costs.

Pool bonding requires individual operators to pay a fraction of their total anticipated reclamation costs into a common pool. If any single operator goes bankrupt, the shared pool is tapped to pay the reclamation costs. The amount of funds necessary to cover potential reclamation costs, and therefore required be maintained in the pool at any time, is typically determined on the basis of an independent actuarial report.

Federal Bonding Policy and Regulation

Under SMCRA, before a mine operator can receive a mining permit, it must provide the regulator with a bond sufficient to cover the cost of reclamation in case the company becomes financially insolvent or otherwise fails to finish the reclamation. SMCRA requires that coal companies file a bond for “performance payable” to the regulatory authority, which will be “conditional upon faithful performance” of the reclamation required in the permit application and by SMCRA (30 U.S.C § 1259a).

Bonds are meant to protect communities and state regulatory agencies that would otherwise be left with the cost of reclamation in the case of bond forfeiture. For this reason, full cost bonding is the most protective approach for communities.

The state regulatory agency, or OSMRE in the case of Tennessee, is required to calculate the bond amount by considering the operation and reclamation plan. Under the most protective policy, agencies look for the "worst case" and determine the maximum reclamation cost to assure sufficient funds to restore the mined land.

The current SMCRA statute and regulations provide regulators with considerable flexibility in designing and implementing a bonding program. In addition to full-cost bonding, regulators may employ a variety of other alternatives. These alternatives have been at the root of many bonding program deficiencies, including deficiencies exposed by the recent sector-wide financial difficulties facing the coal industry. Alternative bonding programs are composed mainly of self-bonding and pool bonding. Each alternative allows a mine operator to avoid posting a bond for the full reclamation amount, and thereby pass the risk of default to the regulator and, by extension, the communities who live near the authorized mine.

Self bonding poses an enormous risk that reclamation obligations will not be met at mines owned by bankrupt or otherwise financially vulnerable mine operators. Self bonds are backed only by a company’s reputation and financial well-being, not by sureties or collateral. Federal rules intend to allow self-bonding only for companies that are financially sound and have substantial assets and low debt (30 U.S.C § 800.23). According to OSMRE (2018b), “To remain qualified, self-bonded permittees must maintain a tangible net worth of at least \$10 million, possess fixed assets in the U.S. of at least \$20 million, and either meet certain financial ratios or have an "A" or higher bond rating.”

OSMRE had begun to take action to limit the use of self bonding. In August 2016, OSMRE issued a “policy advisory” highlighting the discretion of regulators to deny self-bonds, and calling on regulators to re-evaluate existing self-bonds. OSMRE specifically recommended that regulators not accept any new self-bonds until at least 2021, assuming the coal industry had stabilized by then. One month later, OSMRE

announced that it would initiate a rulemaking to reform SMCRA's self bonding regulations, including limiting the circumstances where self-bonds may be issued, and tightening the financial criteria mine operators must meet in order to qualify for self-bonding. Unfortunately in 2017, OSMRE rescinded its policy advisory on self-bonding (OSMRE, 2017a).

Bonding program deficiencies are not limited to self-bonding. Concerns over inadequate bonding have caused several states to look at restructuring how a pooled bonding system is funded. For example, Pennsylvania has turned to full cost bonding or the use of trust funds. That move was prompted, at least in part, by a court decision that stated that the entire bond pool could be liable for the full obligations of any one mining company (*Pennsylvania Federation of Sportsmen's Clubs, et al. v. Hess*, 2002). A major concern is that the bond pool could be depleted entirely by one major incident, such as long-term treatment of acid mine drainage. There is less confidence than before in pool bonding as a way to protect communities and taxpayers.

Recognizing the complexity in evaluating and issuing pool bonds, OSMRE completed an analysis of considerations that should be made under an alternative bonding system. In the document "Alternative Bonding Systems: An Analytical Approach and Identified Factors to Consider for Evaluating Alternative Bonding Systems," OSMRE (1990) identified a number of factors that should be considered when determining whether an alternative bonding system meets regulatory requirements. According to the analysis, alternative bonding systems should:

- be capable of paying reclamation debts and other liabilities at any and all times;
- should be managed according to standard and prudent accounting and actuarial principles;
- be subject to adjustment by the state regulatory authority;
- should obtain a periodic independent actuarial opinion regarding solvency from the regulatory authority;
- should account for and track discharges of acid mine drainage or unlawful discharge of other pollutants to public waters.

Even programs that eliminate or minimize these problematic alternative bonding mechanisms are at risk of passing costs on to taxpayers and local communities if regulators fail to properly implement or enforce the programs. Bonding programs only work when bonds are set at appropriate amounts actually based on projected reclamation costs, and when bonds are released only after all reclamation is complete.

Coal companies have benefited immensely from self-bonding and pool bonding programs, since these programs do not require companies to provide the full cost of reclamation upfront. This has always created some increased liability for state agencies and taxpayers. Now, as the coal industry declines, any continuation of self or pool bonding creates even greater liability. This is especially true in Central Appalachia, where production had declined the most, and where reclamation costs tend to be high

(EIA, 2016). The sections ahead will cover state-specific concerns and policy recommendations for the future.

State Policy Analyses & Recommendations

Kentucky

Background

A prominent deficiency with Kentucky's SMCRA bonding program is the failure of state regulators to set bond amounts at levels sufficient to cover the actual costs of reclamation. In 2010 the Government Accountability Office reported Kentucky's reclamation program was \$4 million dollars short of bond amounts needed for reclamation. In 2011 the OSMRE issued the *National Priority Oversight Evaluation, Adequacy of Kentucky Reclamation Performance Bond Amounts* report, part of a joint study with the Kentucky regulatory agency, which detailed the inadequate bonding practices within the state. The details of case studies showed that Kentucky was requiring an average of only 9.6% of the full cost bond, as calculated by OSMRE's methods. The following table includes examples from those calculations (OSMRE, 2011):

Permittee & Permit Number	Type Mining & Acreage	Bond Type	Kentucky Bond Amount	OSM Handbook Calculated Bond Amount
Patriot Mining #851-0043	Surface/Area 394.6 acres	Incremental (3 Increments)	\$858,200	\$9,628,090
Enterprise Mining #860-0453	Surface/Area 420.6 acres	Incremental (6 Increments)	\$1,384,200	\$18,196,926
Cambrian Coal #898-0807	Surface/Contour 262.1 acres	Incremental (4 Increments)	\$550,000	\$5,432,746
Bell County Coal #807-5223	Underground 21.6 acres	Single Area	\$77,400	\$890,258
Licking River Coal #877-8011	Preparation/Slurry Impoundment 409.3 acres	Incremental (12 Increments)	\$713,193	\$2,975,571

A year later OSMRE issued an oversight process through a "Part 733 Letter" (OSMRE, 2012). This process could shift authority back to OSMRE unless state program deficiencies were addressed. In the letter, OSMRE highlighted the need for the state of Kentucky to take immediate and lasting steps to ensure bond amounts are adequate and that reclamation is completed in the event that a bond is forfeited.

Subsequently, in 2012 Kentucky declared emergency regulations to prevent OSMRE from taking over primacy, including raising bond amounts by an average of 60% and increasing the minimum bond amount from \$10,000 to \$75,000; yet this was still not

enough to ensure long-term viability (Cheves, J., 2012). As a result the state legislature was forced to take more permanent steps and opted to create a bond pool system.

Kentucky instituted a pool bond system and established the Kentucky Reclamation Guaranty Fund (KRGF) in 2013 (§ KRS 350.503). The reclamation account covers costs of reclamation for forfeited coal mining sites when the permit-specific bond is inadequate. Coal company membership with KRGF is mandatory unless a company utilizes full cost bonding as outlined by OSMRE (§ KRS 350.515). For membership, each permittee was charged a one time fee of \$1,500 and a \$10 dollar "per active acre" fee. Since then, as new entities have entered the Fund, they are required to pay a flat fee of \$10,000. Additional fees per acre and tons mined are assessed annually based on a classification system that takes into account the type of mining and whether the mine is active or inactive (§ KRS 350.518). However, companies can opt out of this fund by posting a full cost bond which is based on a worse case scenario. The fund is a revolving and placed in an interest bearing account.

Under the approved KRGF formulary, renewal of existing permits require updated bonding, either by joining the Fund or by putting up a full cost bond. Theoretically, within five years of this updated policy, all permits should be bonded in compliance with the 2013 Kentucky regulation.

Changes in bonding levels and how bonds are calculated are a key component of the new program. The Energy and Environment Cabinet can now use reclamation costs submitted in a permit application to establish the required bond amount if the costs in the application are higher than those calculated by the Cabinet. The regulations also require a review of bond amounts every two years to determine if these amounts are still adequate after inflation and for potential increases in reclamation needs. The minimum bond amount was increased to \$75,000 for the entire surface area of any one permit and new bond calculation forms were developed to comply with the new baseline amounts. The most recent of those forms was updated in late 2014 and included the higher costs of reclamation for prime farmland, stream channel alteration, and alternate topsoil. Unfortunately critical values that were previously calculated for additional higher costs in reclamation, such as endangered species habitat and acid forming materials, were deleted on the latest form (EEC, 2014).

Kentucky's revised bonding regulations were approved by OSMRE and an amended rule was issued in the Federal Register for the Kentucky Regulatory Program on January 29, 2018 having an effective date of February 28, 2018. However, the portion of Kentucky's proposed changes to bonding that relates to the long-term treatment of mine drainages, was NOT approved by OSMRE.

In the case of substandard drainage that requires long-term treatment, the Cabinet proposed (and has been implementing since proposing the plan) that permittees calculate and post an additional bond amount based on the annual water treatment cost provided by the permittee, multiplied by 20 years. In response, OSMRE stated that,

Neither SMCRA nor its implementing regulations allow regulatory authorities to set arbitrary time limits as multipliers for calculating bond amounts. Kentucky has not demonstrated that a 20-year multiplier will result in an adequate bond. As such, we find 405 KAR 10:015 8(7)(a) is less stringent than section 509 of SMCRA, 30 U.S.C. 1259, and less effective than the Federal regulations at 30 CFR part 800, and we are not approving it. (OSMRE, 2018a)

In lieu of posting the additional twenty year bond amount, the proposed Kentucky program would also allow the permittee to submit a reclamation and remediation plan for the areas producing the substandard drainage. Proper and complete water treatment is a requirement for completing mine reclamation in addition to posting bond, not in lieu of posting the bond. OSMRE clarified the requirement by stating,

In addition, the allowance of a land reclamation-based remediation plan in lieu of posting an adequate bond for long-term pollutional drainage treatment is unacceptable. Neither SMCRA nor its implementing regulations provide any exceptions to the requirement to post a bond that is fully adequate to cover the cost of reclamation, including water treatment. (OSMRE, 2018a)

Concerns

Even though Kentucky has been working to improve its bonding program and has created a mandatory pool bond system, there remains a real risk that the state's reliance on reduced funds to create a pool bond will still result in inadequate reclamation funds in the event of forfeitures. Given the recent frequencies of large coal company bankruptcies and the high cost of long-term water treatment liabilities, pool bonds pose a significant ongoing risk. The current amount in the Kentucky bond pool does not appear to be adequate to address the risk of significant bond forfeitures.

According to a Freedom of Information Act request to the Kentucky Department for Natural Resources in March 2016, information about the status of the Fund is as follows: An actuarial analysis of the Fund is supposed to take place every year, however this was not conducted from 2013 through 2015 (§ KRS 530.509). The first actuarial report was published on November 7, 2016. That report included data collected from approximately three years—from the beginning of the program through May 19, 2016.

On March 7, 2016 the balance of the Kentucky Reclamation Guaranty Fund was \$36,823,447.29. By the same date the KRGF had transferred a total of \$1,107,391 to the Kentucky Division of Abandoned Mine Lands due to forfeited permits. \$471,903 was from forfeited bonds obtained from the surety and \$635,488 was additional money required for reclamation that came from the Fund Pool. This means Kentucky had calculated only 42% of the actual funds required to complete the reclamation for those permits. As more forfeitures occur, failure to calculate sufficient bonds will continue to deplete the pool at a greater rate than the funds are replenished due to the reduced

number of new and active permits. From these figures, the pool is already showing that it will be unsustainable.

Pooling makes more sense when the industry is stable and the risk of multiple forfeitures is low. However, during a market collapse, such as the coal mining industry is experiencing now, too many bonds being drawn from the pool each year could eventually collapse the fund. Every indication is that the industry will continue its decline. Gambling the future on the current bond pool no longer has promise. The better approach would be to require that each permittee provide a full-cost surety bond set at an amount adequate to cover the entire reclamation cost, including water pollution treatment if necessary.

We also have serious concerns regarding long-term treatment of water pollution and adequate pollution mitigation. The KGRF cannot be used for the long-term treatment of substandard water discharges or to repair subsidence damage. According to the Kentucky Department for Natural Resources' FOIA response, "The Kentucky SMCRA bonding program requires the posting of a long-term treatment bond in certain instances. These bonds are separate from performance bonds and have a distinctly different calculation and guideline."

Long-term treatment bonds attends to water that needs to be treated for longer than the bond period. The program assumes a 20 year period and a cost around \$50,000 per year for treatment. Kentucky has been using this method for the last few years, but OSMRE recently disapproved the 20 year time period. Water treatment needs are in perpetuity and a 20 year outlook is simply not sufficient.

When OSMRE approved the new bonding program changes in January 2018, they did so with exceptions that include this admonition: "A permit may not be issued if, after sufficient study, analysis, and planning, water pollution is anticipated. Abatement of any unanticipated water pollution is an element of reclamation, and the treatment obligation may extend to perpetuity." (OSMRE, 2018a)

It must be emphasized that completing reclamation that is already mandated under SMCRA does not relieve the permittee from the obligation of posting the appropriate bond. There is nothing in SMCRA or any approved regulations that allows a company to forgo posting a bond that covers the cost of water treatment that may last in perpetuity. Any land-based remediation would already be required under standard reclamation requirements. Allowing land-based remediation in lieu of posting adequate bonds for water treatment is unacceptable.

Other regulators who deal with the need for long-term water pollution treatment for coal mine discharges favor the use of annuities, or trust funds, rather than surety bonds. Kentucky currently has no plans to switch to an annuity/trust fund system. In Tennessee, OSMRE utilizes a more complex system to address long-term pollution treatment issues—an annuity system in lieu of bonding to pay for the extra cost of

long-term water treatment, and consideration of costs on a 75-year time frame. Annuities are better suited to long-term water treatment costs, as portions of the account could be allocated for yearly cost, instead of relying on companies to put up a bond. We have concerns about the finite time calculation approach, but it is a significant improvement upon Kentucky's long-term treatment program.

This was also addressed by OSMRE when they reviewed Kentucky's program and suggested they look for other approved financial mechanisms that are capable of generating funds in perpetuity:

We recommend that Kentucky avail itself of these alternative financial mechanisms to ensure adequate funds are available to fully cover the cost of reclamation. Because this provision at 405 KAR 10:015 8(7)(c) is less stringent than section 509 of SMCRA, and less effective than the Federal regulations at 30 CFR part 800, we are not approving it. (OSMRE, 2018a)

Conclusions and Recommendations

Although on paper Kentucky's SMCRA bonding regulations are better than many other state plans, serious issues remain with how Kentucky implements and enforces its bonding program. Fortunately for the Commonwealth, self-bonding is not a concern. Kentucky relies primarily on a bond pool, but also uses a full-cost bonding system. Still, there are plenty of concerns as coal companies show no signs of improved economic stability.

The biggest overall concern is Kentucky's continuing dependence on a pool bonding system. Full-cost surety bonding is a more reliant approach to ensure that all reclamation costs will be covered as the coal industry flees the state. It is key to make certain Kentucky is in compliance with federal OSMRE standards to ensure adequate reclamation of coal mines sites. Full-cost bonding, which should be mandatory under OSMRE regulations, is the only real way that Kentuckians can ensure proper reclamation will be funded for forfeited mine sites.

The bonding increases instituted in 2012 are a step in the right direction, but the Kentucky Cabinet itself has acknowledged that the proposed revised bonding levels are not sufficient. Tom Fitzgerald (2012) of the Kentucky Resource Council writes,

In response to the May 1, 2012 Letter sent from the OSMRE Director Pizarchik, initiating the process of removing state authority and substituting a federal program for the state program, the Cabinet Secretary acknowledged at several points in the June 4, 2012 response that the amounts proposed in the recently revised 405 KAR 10:015 were not adequate to assure completion of the reclamation plans in the event of bond forfeiture.

Based on a review by DNR applying these protocols to a list of permits forfeited between 2007 and 2011, 34 percent of the revised bonds would yet be

insufficient to cover the reclamation costs. . . The failure of the state to require full-cost reclamation bonding is a regulatory decision that may save costs to the coal industry, but it imposes costs of a different and more significant nature on landowners whose properties are mined and left unreclaimed.

Beyond instituting full cost bonding, long-term water treatment must be addressed specifically. Currently, the financial mechanisms available to mining companies for the assurance of long-term treatment obligations are surety bonds and collateral bonds. As most surety companies refrain from issuing bond guarantees for water treatment obligations, mining companies must post collateral bonds as the only option. Instituting water treatment trusts would provide a mechanism by which the treatment assurance obligations would be fulfilled and the mining company, or state department in the case of forfeiture, could be reimbursed by the fund for annual treatment costs.

Tennessee

Background

Reclamation bonding in Tennessee is based on a full cost bonding system. OSMRE has had primacy over reclamation and bonding in Tennessee since October 1984 and operates a federal regulatory program under SMCRA since the state repealed its surface mining law. OSMRE's Tennessee program does not currently utilize any self-bonding or pool bonding, although these approaches technically remain authorized under current regulations. OSMRE does not take real estate or securities as collateral in the bonding process, but instead utilizes a surety based bonding system. Reclamation bonding is governed by 30 CFR § 800 and 30 CFR § 942.800, which is specific to Tennessee.

When determining the projected costs of reclamation, and therefore setting the reclamation bond amount, OSMRE applies the factors found at 30 CFR § 800.14:

- (a) The amount of the bond required for each bonded area shall:
 - (1) Be determined by the regulatory authority;
 - (2) Depend upon the requirements of the approved permit and reclamation plan;
 - (3) Reflect the probable difficulty of reclamation, giving consideration to such factors as topography, geology, hydrology, and revegetation potential; and
 - (4) Be based on, but not limited to, the estimated cost submitted by the permit applicant.

- (b) The amount of the bond shall be sufficient to assure the completion of the reclamation plan if the work has to be performed by the regulatory authority in the event of forfeiture, and in no case shall the total bond initially posted for the entire area under one permit be less than \$10,000.

(c) An operator's financial responsibility under § 817.121(c) of this chapter for repairing material damage resulting from subsidence may be satisfied by the liability insurance policy required under § 800.60.

In addition to the general reclamation bonding requirements, OSMRE maintains a separate and parallel program in Tennessee to ensure that mine operators provide adequate funds to cover the costs of long-term water pollution treatment. In Tennessee, the long-term water treatment calculations are more complicated than in some other states. OSMRE relies on annuities, rather than bonding, to cover these additional projected long-term costs. Bonding has many issues that make it less appropriate for long-term treatment liabilities like water pollution mitigation. Annuities, or trust funds, are seen as better options, because a sum of money can be held in an account, and interest from that account can be spun off to cover yearly costs. This is in contrast to a company putting up a bond which would only be available in a single, lump sum.

A 2010 report from the Government Accountability Office explains:

In 2007, OSM[RE] revised its regulations for Tennessee to address concerns that full-cost bonds were not adequate to handle the problem of post-mining acid-or toxic-mine drainage. Specifically, the new regulations provide a mechanism in Tennessee to allow operators to establish a trust fund or annuity to cover the cost of post mining pollution discharges in lieu of a performance bond. OSM[RE]'s policy in Tennessee is to assume that post-mining pollution discharges will need to be treated for at least 75 years, barring evidence to the contrary.

When OSM[RE] established the trust fund and annuity options in Tennessee, it stated that a system that provides an income stream may be better suited than full-cost bonds to ensure the long-term treatment of post mining pollution discharges. According to OSM[RE], surety bonds, the most common form of a full-cost bond, are especially ill-suited for this purpose because surety companies normally do not underwrite a bond when there is no expectation of release of liability.

The addition of this authority in Tennessee builds upon the experience of Pennsylvania, which had already established a process for accepting trust funds or annuities to pay for post mining discharges.

From Earl Bandy (personal communication, 2016) OSMRE's former Knoxville Office Director, who oversaw the Tennessee program:

The Tennessee Federal Program has a specific regulation at 30 CFR 942.800 that addresses unanticipated post-mining pollution discharges that allows operators to fund treatment using surety, collateral, or trust funds. To date, all

post-mining treatment systems have been funded through the trust fund approach which covers treatment over a 75 year period.

To determine the total post-mining trust fund obligation, the company must design a treatment system to treat the water to meet 30 CFR 816.42 that ensures all water leaving a SMCRA site meets all Federal and State water quality laws. TDEC monitors this requirement by issuing NPDES permit at the outfalls of treatment systems.

Once the post-mining treatment system design is approved and fully functional, all costs to operate the system are determined using actual real-world costs including materials, labor, and services necessary to operate the system. This data is then used in a financial model to estimate the cost of treatment for 75 years factoring in investment options and rate of return for the trust, trustee cost, historic rates of inflation and operational cost over time.

The treatment sites are inspected on a regular basis and the expenditures from the trust funds are reviewed every year and compared with estimated costs and any differences reconciled. Coal companies are required to submit a yearly report of the treatment system performance, problems encountered, expenditures to operate the system, and any modifications performed throughout the year to enhance performance or correct issues. Companies are either entitled to receive reimbursement for expenditures used to operate the treatment system or are required to reimburse the trust fund for any shortfall in cost of operating the treatment system.

This system is one alternative to the status quo in Appalachia and makes for a more financially sound planning option for water pollution treatment which will be needed in perpetuity.

A recently issued report from the Interstate Mining Compact Commission acknowledges the complexities of long-term water treatment, with the following:

The increasing occurrences of unanticipated impacts to water quality from acid mine drainage or the presence of chemical constituents of concern like selenium are also adding to the complexity of the equation, since traditional bonding approaches like surety do not generally work well for these types of situations. As a result, states are investing more heavily in mechanisms such as trust funds for long-term treatment scenarios and are taking a hard look at the integrity and continued use of bond pools that can be devastated by a single long-term treatment forfeiture.

One of the primary reasons that more states are seriously considering trust funds is that traditional surety bonds were never designed for long-term reclamation obligations like water treatment but instead were focused on shorter term, very

defined obligations that had a high certainty for eventual release following the completion of reclamation. Ordinarily, bonding underwriters will not provide a surety bond if it is determined that a site will have long-term pollutorial discharges since the bond will likely never be released – an outcome that a bonding company will do its best to avoid. This is largely because reclamation bonds are intended to function primarily as credit transactions in which the surety anticipates no loss (Conrad, 2014)

Concerns

While there are only a few active mine sites and pending coal mining permits in Tennessee currently, many sites remain in the reclamation process. We are most concerned with potential defaults by mine operators, leading to unreclaimed sites. Without proper reclamation to mitigate pollutants, these sites may potentially never be usable for purposes that would sustain or contribute to affected mountain communities. Another critical issue with reclamation bonds in Tennessee is lack of enforcement. Strong regulations or policies without vigilant enforcement are simply ineffective.

In 2012, Sierra Club, Tennessee Clean Water Network, and United Mountain Defense notified OSMRE of several significant flaws in the way the agency approaches bonding issues related to selenium pollution from Tennessee coal mines. First, OSMRE fails to meet its duty to adjust the amount of reclamation bonds to cover both the capital and operational costs of treating selenium pollution once it becomes clear that a mine is discharging that pollutant. Second, OSMRE fails to adequately inspect mine operations prior to bond release to determine whether ongoing pollution discharges are occurring. Third, OSMRE fails to require adequate information from permit applicants on the potential for the mine to produce selenium and other forms of mining pollution prior to issuing SMCRA permits and setting reclamation bonding amounts. OSMRE must do a better job of assessing the potential for mines to produce toxic pollution before issuing the initial permit, and before releasing any bond increments.

The ultimate success of reclamation bonding programs like OSMRE's in Tennessee depends on proper implementation. Bonds must be set at the correct amount at the time of issuance, and must remain in place until all reclamation is complete. Should it become clear that reclamation will be more expensive than originally thought, bond amounts must be adjusted upwards. OSMRE must be careful to scrutinize bond-release applications and must conduct thorough on-site inspections before releasing any bond amount. OSMRE must exercise its discretion to deny bond-release applications when necessary, and must not release any portion of a bond if the remaining funds will be inadequate to cover the actual cost of remaining reclamation.

There is a current push by the Tennessee Mining Association to return regulatory primacy to the state. As of early 2018, a bill to implement this change has been passed by the Tennessee legislature. Despite all of the issues with OSMRE enforcement and communication, it is extremely unlikely that the state could do a better job, considering the history of negligence that led to the state's original loss of primacy. To safeguard

proper bonding and reclamation in Tennessee, especially relating to primacy, OSMRE should continue to run the program.

Conclusions and Recommendations

OSMRE's hands-on role under federal primacy makes Tennessee a good place to push for fixes to bonding regulations. OSMRE should change its regulations, or at a minimum adopt a formal policy confirming that it will not allow self-bonding or pool bonding in Tennessee or any other area where OSMRE directly implements SMCRA. Self-bonding and bonding pools have been shown to be ineffective, whereas full cost bonding ensures adequate money to cover reclamation costs.

OSMRE's decision to limit the estimated costs of water treatment to 75 years is problematic, considering there is no evidence that all water pollution in the state ceases to exist after this period. OSMRE should not include an arbitrary limit for these financial assurances, instead this determination should be made on a per-mine basis. Although it is important to provide adequate funding mechanisms to cover the costs of long-term water pollution treatment from coal mines, the better approach is for mining regulators to avoid issuing permits for operations that are likely to produce this pollution in the first place.

OSMRE is not always as strong of an enforcer as it needs to be without citizen intervention. We must remain vigilant so that the agency follows up on violations and requires proper reclamation in a reasonable time frame. Lack of transparency and information sharing from OSMRE is a serious concern. Bond releases and modifications can be hard for citizens to track. The only form of notice for bond releases is in local county newspapers. This is inadequate. There needs to be a single government issued list or database system for the state; alternatively, OSMRE should provide electronic notice for bond releases, in addition to announcements in local papers.

OSMRE also needs to require annual bonding reviews, rather than just at the mid-term of the SMCRA permit period. There must be inflation adjustments for reforestation and revegetation cost. OSMRE must also be allowed to recalculate bonds if unforeseen events occur at permit sites. Lastly, OSMRE must make certain to factor in selenium pollution treatment and reclamation costs into all future permits, including requiring new re-engineering costs to address selenium.

Virginia

Background

Virginia relies primarily on a bond pool, known as the Coal Surface Mining Reclamation Fund or, more commonly, as the Pool Bond fund. Virginia's program is currently in flux as it seeks approval from OSMRE for recent, and generally positive, revisions to its bonding program. As a result of pressure from OSMRE, the state changed its SMCRA statute and regulations in 2014 to attempt to eliminate self-bonding.

Mine operators in Virginia have the option of posting a bond for the full cost of reclamation, or participating in the state's bond pool. Virginia's pool bonding system operates in two tiers. First, an eligible company that wishes to participate in the pool must provide a bond amount calculated on a per-acre basis, with higher per-acre costs for surface mines. This bonded portion is *not* based on any estimate of the actual reclamation costs for that particular mine. This portion covers reclamation costs for the individual mine so that there is always some money for reclamation for a given permitted area. Second, the mine operator must pay additional fees and taxes that provide the funds for the collective bond pool. The fees include an entrance fee, which is typically set at \$1,000, and a renewal fee. Every company participating in the bond pool must also pay a tax on each ton of coal mined, payable on a quarterly basis. The second tier - the collective bond pool - may be drawn upon by the state in the event that any participating mining operation is forfeited and not completely covered by the first tier (4 VAC 25-130-801).

OSMRE has raised concerns about the adequacy of Virginia's program. In response to an actuarial study and pressure from OSMRE, Virginia made several changes to its bonding program in 2014. These proposed changes raised the cap on the second tier of the bond pool—the portion funded by fees and taxes from the mine operators—from \$2 million to \$20 million, but stopped short of eliminating the cap entirely. Once this cap is reached, companies participating in the bond pool no longer have to pay into the fund.

In October 2015, Virginia submitted proposed changes to its bonding regulatory program to OSMRE for approval or disapproval. The changes the Virginia legislature made include:

1. revising the language of the public participation regulations to clarify proof of publication requirements;
2. remove self-bonding provisions; and
3. remove duplicate pool bond regulations concerning subjects which Virginia asserts are already addressed in its codified statutes.

Concerns

In 2011, at OSMRE's insistence, Virginia Department of Mines, Minerals and Energy (DMME) commissioned an independent actuarial assessment of the state's bonding program. The actuaries reviewed the pool bond and self-bonds. The actuaries concluded that if any big companies failed, the bond pool would dry up. In fact, the report concluded that the bond pool only had sufficient resources to withstand the forfeiture of one or two smaller permits (Pinnacle Actuarial Resources Inc, 2011). This exposed the Pool Bond fund to significant risk from larger parent companies with multiple permits that they could forfeit in the event of a bankruptcy. The majority of Virginia mining permits participating in the bond pool were controlled by four companies at the time of the study (Pinnacle Actuarial Resources Inc, 2011). Unfortunately, Virginia's pool bond strategy is completely unprepared to address an industry-wide collapse.

Pinnacle used Alpha Natural Resources, which later filed for Chapter 11 bankruptcy, as a “shock loss test” example. They found that if Alpha liquidated its operations, the bond pool’s reclamation liabilities would increase by an estimated \$85 million dollars, and the fund would run a negative balance of \$50 million dollars, at current tax rates, in just 8 years (Pinnacle Actuarial Resources Inc, 2011). This shock test did not assume any other SMCRA permit forfeitures that would affect the pool in that time. At least 50 mine operators have filed for bankruptcy since 2012, and more are expected (Scott, 2016).

The actuarial report determined that forfeiture of the 19 pool bond permits that still included some form of self-bonding would leave the pool bond fund responsible for an estimated additional \$26.6 million over and above the amounts that the fund would normally be required to cover. The report states, “if one permit held by a subsidiary of one of the dominant parent corporations were to reach a point where the permittee could no longer finance further reclamation, the parent company would be highly likely to, if not for certain, also forfeit its other permits to the pool bond fund” (Baker, 2016). The increased risk posed by self-bonded participants in the pool bond fund had not, as the date of the report, been reflected in an increased coal tax rate.

In addition, at least 23 Virginia permits are currently in temporary cessation. Apparently, at least 4 of them are pool bond participants. Additionally, numerous other permits are in “partial” temporary cessation or “active/not producing” status. A competent audit of the pool bond system may conclude that these permits pose a significantly increased risk of liability to the fund compared to the risk posed by active mines or mines that have been fully reclaimed but are in the process of demonstrating long-term revegetation success.

As to future actuarial studies, Greg Baker of Virginia DMME has stated, “Yes, there will be future checks as to the soundness of the Reclamation Fund. We are currently working on requesting bids for a new actuarial study of Virginia’s Reclamation Fund” (personal communication, March 3, 2016). In September 2016 the Coal Surface Mine Reclamation Advisory board met and recommended DMME not pursue anymore actuarial studies until OSMRE approves changes from the previous study (CSMRFAB, 2016).

We have additional concerns regarding long-term water treatment. We have been unable to obtain information regarding current water treatment on Virginia permits. Without this information, it is impossible to calculate the full liabilities the bond pool needs to cover. Some companies in the state, owned by businessman Jim Justice, have yet to switch over from self-bonds to something more substantial such as full bonding (CSMRFAB, 2017). This is a particular problem as Virginia’s proposed changes have eliminated all of the regulations governing the operation of self-bonds, leaving a regulatory vacuum for these mines.

Virginia has not been able to compel existing self-bonded permittees either to reclaim their permits fully or to replace all existing self bonds with surety bonds, sufficient deposits of cash, Government securities, or qualified banking instruments. As a result there are at least 20 existing self-bonded Virginia permits as of early 2018. Collectively, the bonded amounts of these permits total more than \$24 million (Olalde, 2018). Their collective permitted areas exceed 15,000 acres (DMME, 2015).

Conclusions and Recommendations

Virginia is ending self-bonding through the legislature and in legal code. The state can go further towards a sustainable bonding system by instituting full cost bonding practices, based on site-specific factors, instead of setting arbitrary bond amounts not based on actual reclamation costs. Similar problems exist in Virginia, Kentucky, and West Virginia. OSMRE should pressure all three states to improve their bonding programs. Tennessee, already run by OSMRE, provides a good model. While their program is not perfect, it is much stronger than other Central Appalachian states, which will require pressure from citizens and from OSMRE to strengthen areas of concern.

The initial actuarial report recommended some additional improvements to Virginia's bonding program that have not yet been implemented and that OSMRE should require. Southern Appalachian Mountain Stewards and Sierra Club have submitted technical comments to OSMRE requesting these additional improvements to the Virginia SMCRA bonding program.

The state proposal seeks to raise the cap for the tax-portion of the bond pool. The actuary recommends eliminating the cap in its entirety, to allow the fund to build up to whatever levels are required to adequately cover the liabilities and reclamation needed for the largest loss possible as a result of bond forfeiture. We also recommend establishing requirements that any new increments on existing permits with the self-bonding option be required to provide other sources of financial security.

The state of Virginia did not implement all of the recommendations from the Pinnacle Report. Since the report's release, the coal industry has undergone significant decline. At this point, Virginia should provide an updated actuarial assessment of the solvency of the Pool Bond fund. A new assessment would help to evaluate the changes already implemented to the Pool Bond fund, and identify what further changes are necessary.

A new report, and any future reports, should include an assessment of the risk posed by:

- mines in temporary cessation and those in active/non-producing status;
- reliance on the coal reclamation tax, given decreasing production;
- Virginia's unchanged reclamation tax rate;
- DMME's lack of authority to impose one or more retroactive or special assessments in future.

OSMRE also needs to require that Virginia expressly authorize the DMME Director to promulgate regulations setting the amount or rate of specific bond pool fees, so as to enable the Director to make timely adjustments that are or may become necessary to achieve or maintain solvency of the Pool Bond system. The current proposal from the state of Virginia does not currently allow for that.

West Virginia

Background

West Virginia requires that all operators participate in a bond pool and also allows self-bonding. The pool bond system raises serious concerns, and has the potential to produce catastrophic results should one or more large mine operators forfeit reclamation bonds.

Mine operator bankruptcies have highlighted serious deficiencies in West Virginia's current self-bonding and pool bonding system. Alpha Natural Resources, which filed for bankruptcy in 2015, had \$244 million dollars in self-bonded reclamation liabilities in the state when it entered bankruptcy. The company reorganized and was allowed to emerge from bankruptcy with over \$150 million in self-bonding at its reclamation-only sites.

Currently all mine operators must participate in the state's alternative bond system, or bond pool. The West Virginia bond pool system involves two separate tiers. First, each mine operator must post a site-specific "penal bond" which is limited to a per-acre bond of between \$1,000 and \$5,000. In West Virginia, bonds are calculated on area only and are therefore not tied directly to the real cost of reclamation for a specific permitted site. Qualifying mine operators may self-bond this portion of their reclamation bonding obligations (W.Va. Code §22-3-11).

Second, any remaining funds necessary to cover the full cost of reclamation in the event of permit forfeiture are drawn from the bond pool. Because the penal bond will almost always be set at an amount well below the actual reclamation cost, the demand on the bond pool will be significant in the event of permit forfeiture. The bond pool is financed through a tax imposed on each ton of coal mined in the state. The current tax is 27.9 cents per ton, with 12.9 cents dedicated to the Special Reclamation Fund and 15 cents for the Water Trust Fund (SRFAC, 2016).

The legislature created the Special Reclamation Fund in 1982 as part of the original regulatory program. Never adequate, the Fund was the subject of several lawsuits, one of which resulted in the creation of an advisory council in 2001 to "ensure the effective, efficient, and financially stable operation of the Fund" (W.Va. Code §22-1-17). The advisory council is required to report to the legislature every year on the financial condition of the fund. Furthermore, the West Virginia Department of Environmental

Protection (WVDEP) is required to conduct formal actuarial studies every 2 years and conduct informal reviews annually.

In addition to the Special Reclamation Fund (SRF), which applies to traditional mine land reclamation, a separate Special Reclamation Water Trust Fund was created in 2008. The balance of the Special Reclamation Fund was \$50.3 \$78.4 million, and the balance of the Special Reclamation Water Trust Fund (SRWTF) was \$104.2 million, as of December 31, 2017. Between 2011 and 2017, the SRF has fluctuated between approximately \$50 and \$80 million. The newer SRWTF has increased from \$8.7 to \$104.2 million in the same time period (SRFAC, 2018). The SRWTF is currently just accumulating value until it begins to treat all new water liability expenditures starting in 2018. Most of these will be perpetual water treatment systems. Currently, the Fund estimates the cost of treating water based on an arbitrary 20 year horizon, and this is what the report looks at, not beyond.

On May 3 2017, WVDEP submitted to OSMRE an amendment to its program, following the passage of signing of senate bill 687. The Bill amended WV regulatory code §§22-3-11(g) (1) and (2), 22-3-13a to allow for adequate funding for treatment of bond forfeited sites. This rulemaking is currently awaiting approval by OSMRE (OSMRE, 2017b).

Concerns

One problem with West Virginia's pool-bond approach is that as coal production has dropped, there is less money coming into the system. At the same time, there is a greater risk that mine operators will forfeit their permits. Because the site-specific penal bond is not intended to cover the full costs of reclamation, the only other source of reclamation funds is the pool bond. This problem is greatly magnified by the fact that some operators, like Alpha, have been allowed to self-bond their penal bond amounts. In the case of these self-bonded mines, 100% of the reclamation costs would be drawn from the pool bond should the company go bankrupt.

The system has historically benefitted the coal industry by making bonds less expensive. Smaller bonds meant smaller premiums to bonding companies or smaller amounts of cash that companies had to deposit with the Department of Environmental Protection.

The state program provides for an Advisory Council to oversee the financial health of the SRF. Each January the Council prepares an annual report to the West Virginia Legislature on that issue, and every two years the Council commissions an actuary to conduct an actuarial analysis of the financial health of the Special Reclamation Fund. For the past several years, this report has largely failed to recognize the significant threat of major permit forfeitures which would entirely wipe out the Fund's bond pool, and also fails to account for the full future costs from long-term water treatment.

In an April 2015 letter, the Director of OSMRE's Charleston Field Office, Roger Calhoun, asked WVDEP and the Advisory Council to more fully evaluate potential reclamation liabilities that he did not believe they had fully analyzed (Ward, 2015). Specifically, Mr. Calhoun identified several ongoing and future reclamation liabilities that require costly perpetual water treatment and were not considered in past actuarial analyses.

In its 2015 Annual Evaluation Report on West Virginia's SMCRA program, OSMRE repeated the concern expressed in these letters, stating that:

During EY 2015, CHFO [Charleston Field Office] notified WVDEP by letter of potential water treatment liabilities that exist that have not been considered in past actuarial studies. Given the precarious financial condition of many of the State's coal companies today, CHFO suggested that it would be prudent for WVDEP and the Advisory Council to consider the risk of failure of some of the sites with unusual reclamation liabilities that may be more costly to address than reflected by existing forfeitures to date. Some examples include: sites with selenium treatment systems that range in cost from several million dollars to \$50 million; a reverse osmosis plant that cost \$200 million to construct and has an operating and maintenance cost of several million per year; the cost to construct and maintain water treatment systems to treat discharges from large underground mine pools throughout the State should coal mining companies cease pumping; and the cost to restore streams and replace aquatic life once they are damaged due to subsidence by underground mining. CHFO recommended that these considerations be presented to the actuarial firm and factored into its assumptions and projections in the upcoming study. Given the potentially perpetual nature of many water discharges, CHFO concluded that the current fee-based system will not sustain funds necessary for treatment systems that may be in place for decades or centuries to come. (OSMRE, 2015b)

In a news report from the State Journal, Harold Ward expressed concern with the bonding situation in the state in regards to the financial situation of the coal industry:

'We have several companies in bankruptcy right now in West Virginia. Bankruptcy is a very complicated situation, but the fact that the company has filed for bankruptcy does not mean they're forfeiting bonds,' said Ward. 'We have bankruptcies more frequently than we would like to see, but we generally see a restructuring plan worked out'. Ward also said the agency recognizes that the current bonding method isn't sustainable due to the decline in the coal industry, but said they are working 'I think it's a legitimate concern because of the size of the companies that are filing for bankruptcy, and that's why we're looking at a new method right now' (Tincher, 2016).

Not only have state and federal mining agencies failed to provide an adequate bonding system, but the West Virginia legislature has also refused to increase the money going

to the Fund. In 2016 the legislature even went as far as to propose tax cuts to the coal severance tax. This fortunately did not pass, as it would have further worsen the financial health of the Special Reclamation Funds.

OSMRE must exercise its oversight responsibility in West Virginia. Virginia and Kentucky have both needed direction from OSMRE for improvements to happen, just as West Virginia has needed in the past. Pressure by OSMRE on the state or a nationwide rulemaking or guidance to end self-bonding could be more practical and also very helpful. Pennsylvania has full cost bonding and West Virginia must also adopt this approach, including sound mechanisms for calculating full cost bonds and knowing true reclamation costs.

Conclusions and Recommendations

West Virginia needs to eliminate self-bonding and do away with its bond pool in favor of transition to full-cost bonding tied to the cost of actual reclamation.

Another aspect needing improvement is the bonding database. Outdated information and information gaps are a problem, as this database is used to determine financial viability for state special reclamation fund reports and more. State regulators need to ensure accurate information, and to have reports and financial information based on good data.

The biannual report issued by the Special Reclamation Fund Advisory Council is meant to address whether the fund is financially adequate to cover reclamation liability costs going forward. But, without taking bankruptcies, long-term water pollution treatment, or long-term funding for the SRWTF into account, the report cannot be considered a comprehensive assessment of the financial viability of the fund. OSMRE must require an actuarial study that considers recent historic and projected future economic conditions of the coal industry, as well as the cost of perpetual long-term water treatment liabilities.

There are serious concerns with the accuracy of the modeling used in the Advisory Council's report. Basing actuarial studies only on the past, ignoring the future (bankruptcy, long-term water treatment, pollution mitigation for metals, like selenium), is a methodology not fit for the task at hand. The 2015 report appears to make the fund look solvent until 2035 (SRFAC, 2016). Previous methodology in 2013 showed the fund with a negative balance by 2018, due to the SRWTF assuming liabilities for water treatment in that year. Also, the report contains a potential overblown estimate on SRWTF investment yield (SRFAC, 2014).

Accurate actuarial studies that reflect the actual demands on the bonding system into the future must be provided. It is crucial for stakeholders to understand the real current liabilities and the current status of the fund, as well as the true cost of permits in reclamation and forfeiture. When we know the real liabilities, then we can better calculate site-specific bonds going forward.



Stream Protection Rule

OSMRE finalized the Stream Protection Rule in 2016, but the rule was repealed in 2017 through the Congressional Review Act. The rule was never implemented on the ground. The rule included several changes to the reclamation bonding requirements, which could be implemented in the future through other means. The rule required financial assurances for treatment of long-term water pollution discharges. OSMRE made clear that these financial assurances should not be in any form of bond, but should consist of trust funds or annuities held by the regulator or accessible to the regulator (OSMRE, 2015a).

This is a positive idea, and one already implemented in states such as Pennsylvania and Tennessee. Other aspects of the Stream Protection Rule that would have led to positive changes to reclamation bonding include:

- Replacing § 800.11(e) with § 800.9, which would prohibit the use of alternative bonding schemes for long-term treatment or for restoration of the ecological function of a stream. *Id.* at 44,535;
- Revising § 800.14(a) to ensure that regulators consider the biological conditions of perennial and intermittent streams when setting bond amounts. *Id.* at 44,536;
- Revising § 800.40, which pertains to bond release. *Id.* at 44,539. This would require regulators to consider monitoring of groundwater and surface water, including biological parameters, when deciding whether to release any part of a reclamation bond;
- Adding § 800.42, specifying criteria for bond release. *Id.* at 44,539-40. This would prohibit a regulator from releasing a bond if monitoring reveals “adverse trends” that may result in material damage; prohibit bond release until long-term treatment of pollution is financed; require consideration of degree of difficulty of completing remaining reclamation; specify that the “backfilling and regrading” required under Phase I bonding includes restoration of the form of perennial and intermittent streams; specify that Phase I bond release must ensure that sufficient reclamation bond funds remain to pay for costs of restoring stream function; and clarify that the statutory language allowing release of 60% of a bond with Phase I bond release does not stand alone, and that a regulator must ensure that sufficient bonding remains to cover full costs of remaining reclamation, including restoring ecological function in streams. *Id.* at 44,540-41 (OSMRE, 2015 a).

Policy Recommendations

Full cost surety bonding is the preferred way to ensure that all reclamation costs will be covered. The reliance of many states on bond pools poses a significant risk that these states will not have the money for reclamation going forward given current market conditions and long-term water treatment concerns. Changes can be made at both the federal and state levels to improve current bonding insufficiencies.

Federal Recommendations - OSMRE

1. OSMRE needs to act quickly to **complete the rulemaking** process on self-bonding that the agency announced in August 2016. OSMRE should create an enforceable pathway to ensure state programs will not allow operators to self-bond any additional acres. At a bare minimum, OSMRE should impose a much more stringent financial test to clarify self-bonding procedure, including specifying that if any part of a corporation, including any subsidiary, does not meet the self-bonding requirements, no part of that corporation may qualify for a self-bond.
2. OSMRE should also change its regulations, or at a minimum adopt a formal policy confirming that it will **disallow self-bonding** in any area where OSMRE directly implements SMCRA. A process must then be created to transition existing self-bonds to full cost surety bonds.
3. OSMRE should begin a similar rule making process to end the use of inadequate bond pools, as states need to switch from these bond pools to full cost bonding.
4. OSMRE should devise a mechanism to ensure that financial assurances for treatment of long-term pollution discharges consist of trust funds or annuities held by the regulator or accessible to the regulator, as well as to secure additional protections for long-term water treatment.

Proper implementation and enforcement of existing regulations is an important duty of OSMRE. Without citizen support and pressure, OSMRE is not always as strong an enforcer as it needs to be. OSMRE must do a better job of assessing actual reclamation costs when issuing permits initially, and must take care to not allow permits in areas where mining will result in significant ongoing water pollution problems. Citizens groups must continue to push OSMRE to be aggressive in enforcement. We must remain vigilant so that the agency follows up on violations and for proper reclamation in a reasonable time frame.

State Level Recommendations

Kentucky

1. The biggest concern in Kentucky is the state's continuing reliance on a pool bonding approach. **Full cost surety bonding** is the preferred way to ensure that all reclamation costs are and will be covered as the coal industry declines in the state. We recommend that Kentucky transition its program to full cost surety bonding. If Kentucky decides to continue relying on the pool bond, it must make significant reforms, including **increasing the total bond pool** amount so that it contains sufficient funds to cover the full costs of reclamation in the event of a significant number of permit forfeitures.

2. A **long-term water treatment system based on annuities**, or another system, which factors in cost for the ongoing pollution treatment is needed in Kentucky. Other regulators, like those in Pennsylvania and Tennessee, that deal with the need for ongoing long-term water pollution treatment favor this over surety bonds. Kentucky currently has no plans to switch to an annuity/trust fund system, but this could change with further scrutiny and with OSMRE's denial of approval for the current plan. The surety industry may prefer annuity to regular bonding, as they often don't feel secure to bond something that could need treatment in perpetuity.

Tennessee

1. OSMRE should change its regulations to **eliminate self-bonding and pool bonding** as options in the future, or at a minimum adopt a formal policy confirming that it will not allow any self-bonds in Tennessee or any other area where OSMRE directly implements SMCRA.

2. OSMRE should not include an arbitrary limit for these financial assurances, but should instead make this **determination on a mine-by-mine basis**. OSMRE has not established that all water pollution in the state ceases after 75 years.

3. There needs to be a single government-issued list or database system for **bond release applications** similar to the one used for permit application notices. Lack of transparency and ease of information sharing from OSMRE is a serious concern. Monitoring bond release applications and modifications can be difficult. The only form of notice for bond release applications is typically provided in local county newspapers.

4. OSMRE also needs to **require bonding reviews yearly**; not just midterm of the SMCRA permit. There must be adjustments to the bond amount to account for inflation factors. OSMRE must also be allowed to recalculate bonds if unforeseen events occur at permit sites. OSMRE must make certain to factor in the cost of selenium remediation into all future permits; and require new re-engineering costs to address selenium.

Virginia

1. Virginia and OSMRE need to ensure that companies that are still self-bonded **complete the transition into full cost surety bonding**. Some companies in the state have yet to switch over from self bonds to something more substantial such as full bonding. This is a particular problem as Virginia's proposed changes have eliminated all of the regulations governing the operation of self-bonds, leaving a regulatory vacuum for these mines.

2. **Eliminate the bond pool cap** to ensure that adequate funds are always available for reclamation. Virginia's recent proposed changes to its bonding program raised the cap on the tax-portion of the bond pool from \$2 million to \$20 million, but stopped short of eliminating the cap entirely.

3. OSMRE also needs to require that Virginia expressly authorize the DMME to promulgate **regulations setting the amount or rate of specific bond pool fees**, so as to enable them to make timely adjustments that are or may become necessary to achieve or maintain solvency of the fund.

4. OSMRE must also require that recent **historic and projected future economic conditions be a part of all future actuarial analyses**.

West Virginia

1. West Virginia needs to **eliminate its bond pool** and transition to full cost surety bonding, tied to the cost of actual reclamation, not an arbitrary fee. If West Virginia retains its bond pool approach, it needs to dramatically increase the total amount of funds in the pool, including by providing for additional ongoing sources of incoming funds.

2. West Virginia surface mining program must also be amended in state code to **no longer allow self-bonding**.

3. West Virginia must also provide clearer and more robust **mechanisms for calculating** the bond amounts and estimating true reclamation costs. OSMRE must require complete and accurate actuarial reports that considers recent

historic and projected future economic conditions of the coal industry, as well as the cost of perpetual long-term water treatment liabilities.

4. West Virginia's bonding database also needs improvement. State regulators need to **ensure accurate information**, and to have reports and financial information based on good data. Outdated information and information gaps are a problem, as this database is used to determine financial viability for state special reclamation fund reports and more.

Conclusions

The continued decline of the coal industry has drawn our attention increasingly to the flawed practice of bonding in our region. Bonding is the process by which coal companies provide financial assurance that the lands they have damaged by mining will be reclaimed. Because of weak and inconsistent laws and regulations surrounding this practice, the public is at risk of having to pick up the tab for the immense destruction of mountaintop removal and other damaging coal mining practices, while the coal industry keeps the profits.

OSMRE has an important role at the state level; citizens need support from OSMRE where state level policies have left our communities unprotected. If states are unable or unwilling to reform their bonding programs themselves, OSMRE is obligated to step in and require better bonding practices to ensure that reclamation costs are covered and paid for by industry and not foisted upon taxpayers. Self-bonding must be eliminated.

We believe that citizen groups must be engaged and involved in the reclamation bonding process in order for it to successfully benefit their communities. Full cost bonding is necessary to ensure proper reclamation in all of Appalachia and across the country.

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