

March 31, 1997

A Message Concerning Acid Mine Drainage

The prevention of future acid and toxic discharges from coal mining operations into surface and ground waters and the remediation of mining-related pollutional discharges are high priorities of the Office of Surface Mining Reclamation and Enforcement (OSM). To advance these priorities, OSM previously established the Appalachian Clean Streams Initiative, with a primary focus on eliminating acid and toxic mine drainage (AMD) from abandoned mines, and the Acid Drainage Technology Initiative, which concentrates on the prevention and remediation of AMD from mining.

To complement these efforts, OSM established an AMD Policy Team. After extensive input from primary States, other Federal agencies, the environmental community, industry representatives and coalfield citizens concerned about AMD, the team developed policy goals, objectives, and strategies to protect the hydrologic balance in coal mining areas from the effects of AMD. On May 15, 1996, OSM released the draft policy statement for public review. The comments received have proven extremely helpful in developing final AMD policy goals and objectives. Attached are a summary of the major issues raised by commenters and the agency's responses to those comments.

The policy statement adopted today clarifies OSM's goals and objectives and sets forth strategies to correct drainage from past coal mining operations and to prevent AMD at sites regulated under the Surface Mining Control and Reclamation Act (SMCRA) and its implementing regulations. Conducting regulatory and reclamation programs under SMCRA in harmony with the final policy goals and objectives will result in a comprehensive AMD remediation and prevention program.

Regulatory program strategies focus on designing mining operations to prevent AMD formation, monitoring operations during mining and reclamation to identify any need for corrective actions to prevent or mitigate postmining pollutional discharges, and addressing liability for AMD in permit bonding determinations. There are a number of regulatory program subject areas where additional input and agreement from the States, industry,

environmental community, and coalfield citizens would strengthen overall efforts to prevent and control AMD. These areas include:

- Development of a better understanding of thresholds and guidelines for assessing material damage.
- Development of alternative treatment technologies and financial mechanisms for addressing long-term AMD liability.
- Development of alternatives to accommodate the unique circumstances attending remaining operations.

OSM appreciates your comments on the draft statement and your valuable input to this important effort.

/sgd/

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Attachments

HYDROLOGIC BALANCE PROTECTION



POLICY GOALS AND OBJECTIVES

on

CORRECTING, PREVENTING AND CONTROLLING ACID/TOXIC MINE DRAINAGE

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The Surface Mining Control and Reclamation Act of 1977 (SMCRA) includes provisions to clean up past mining-related pollutional discharges and to prevent the creation of such future discharges. SMCRA provides that surface coal mining operations must be designed to prevent material damage to the hydrologic balance outside the permit area. Once initiated, acid/toxic mine drainage (AMD) often results in long-term hydrologic impacts. Reclamation or remediation in such cases is often neither economically nor technologically feasible.

AMD is a possible undesired consequence of surface and underground disturbance in areas that contain potentially acid-producing materials. The prevention of future acid discharges into ground and surface waters is dependent upon implementation of an evolving science-based suite of predictive, containment, neutralization, and avoidance technologies. It is the responsibility of the regulatory authority under SMCRA to ensure that surface coal mining and reclamation operations are designed and conducted to prevent off-site material damage to surface and ground waters.

Conducting regulatory and reclamation programs under SMCRA in harmony with the following policy goals and objectives will result in a comprehensive AMD remediation and prevention program. The program is based on designing mining operations to prevent AMD from occurring, monitoring operations during mining and reclamation to identify any corrective actions that may be needed to prevent or mitigate postmining pollutional discharges, and addressing liability for AMD in permit bonding determinations.

On-the-ground conditions in the coal fields continue to show improvement in regulating mining and performing reclamation. The progress being made in AMD remediation and prevention will be enhanced as the concepts contained within the goals and objectives on preventing and controlling AMD are implemented.

GOALS AND OBJECTIVES

GOAL: Environmental Restoration

AMD discharges from pre-SMCRA sites should be remediated to achieve water resource recovery.

Objective 1 Remove programmatic and regulatory barriers that impede the use of existing funds for cleanup applications.

Objective 2 Advance acid discharge remediation technology through the use of partnerships with other interested parties.

Objective 3 Maintain and support various communications initiatives that will enhance the development of cleanup partnerships and promote use of the latest technological advances.

GOAL: Environmental Protection

Minimize both on- and off-site disturbances to the hydrologic balance, prevent off-site material damage to the hydrologic balance, and avoid AMD from operations permitted under SMCRA.

Objective 1 Only approve permits where the operation is designed to prevent off-site material damage to the hydrologic balance and minimize both on- and off-site disturbances to the hydrologic balance. In no case should a permit be approved if the determination of probable hydrologic consequences or other reliable hydrologic analysis predicts the formation of a postmining pollutional discharge that would require continuing long-term treatment without a defined endpoint.

Strategy 1.1 - Predictive techniques should be used to identify and characterize the site-specific acid- or toxic-forming conditions posing a risk of AMD formation.

Strategy 1.2 - Each mining and reclamation plan should specifically address identified acid- and toxic-forming conditions and demonstrate how off-site material damage will be prevented and on- and off-site disturbances minimized without the use of techniques that require long-term discharge treatment without a defined endpoint.

Strategy 1.3 - Each permit should include adequate measures, such as prevention and mitigation technologies, to control and manage identified acid- or toxic-forming AMD conditions and to protect the quality and quantity of surface and ground water systems during mining and reclamation.

Strategy 1.4 - *Regulatory authorities should establish criteria to measure and assess material damage. Material damage guidelines, to be applied on a case-by-case basis, are necessary to effectively assess the adequacy of mining and reclamation plans in addressing AMD prevention.*

Strategy 1.5 - *Approved permits should include a monitoring plan for determining whether the operation and reclamation plans are being effectively implemented.*

Objective 2 *Financial responsibility associated with AMD should be fully addressed.*

Strategy 2.1 - *Prior to permit issuance, adequate financial assurance should be provided to ensure completion of the hydrologic reclamation plan.*

Strategy 2.2 - *If, subsequent to permit issuance, monitoring identifies acid- or toxic-forming conditions which were not anticipated in the mining and operation plan, the regulatory authority should require the operator to adjust the financial assurance.*

Strategy 2.3 - *Where inspections conducted in response to bond release requests identify surface or subsurface water pollution, bond in an amount adequate to abate the pollution should be held as long as water treatment is required, unless a financial guarantee or some other enforceable contract or mechanism to ensure continued treatment exists.*

Objective 3 *Whenever necessary to avoid AMD during and after mining operations or during reclamation, the operator should provide treatment adequate to minimize disturbances to the hydrologic balance and meet applicable water quality requirements.*

Objective 4 *Monitoring practices should be adequate to determine whether the operation and reclamation plan is being implemented and whether off-site material damage is occurring.*

Strategy 4.1 - *Surface and groundwater monitoring data should be evaluated against established material damage criteria.*

Strategy 4.2 - *The operator should establish and the regulatory authority should approve a monitoring program to ensure that all elements of the operation and reclamation plan are being implemented (e.g., special overburden handling, alkaline addition, other treatment requirements).*

Objective 5 *Inspections should evaluate the effectiveness of the operation and reclamation plan, as well as compliance with both the plan and all applicable performance standards.*

- Strategy 5.1 - Each complete inspection should address and document compliance with all AMD control elements of the operation and reclamation plan. Relevant AMD control elements should be addressed during partial inspections, as appropriate.*
- Strategy 5.2 - Inspection priority should be given to sites with acid- or toxic-forming conditions posing a high risk of AMD formation.*
- Strategy 5.3 - Inspections should provide information for use in evaluating the accuracy of the hydrologic and geologic data and assumptions in the permit application. In addition, inspections should provide information on minesite conditions as they relate to actual or potential surface or groundwater pollution.*
- Strategy 5.4 - Inspections should provide information to evaluate the effectiveness of the mining and reclamation plan by comparing on-site results with predicted results.*
- Strategy 5.5 - Where evaluation of inspection results shows that the mine plan may not be adequate to prevent off-site material damage, the plan should be modified to address the prevention of such damage.*

Disposition of Comments on May 15, 1996 Draft of AMD Policy

Twenty one individuals, groups, or State and Federal agencies submitted comments on the draft AMD policy distributed on May 15, 1996. Federal agencies commenting were the Departments of Agriculture, Army (Corps of Engineers), and Labor. State agencies commenting were the Kansas Department of Health and Environment, Kentucky Department for Surface Mining Reclamation and Enforcement, and the Oklahoma Conservation Commission. OSM entities included the Birmingham Field Office and the Mid-Continent Regional Coordinating Center. Environmental groups included the Citizens Coal Council, Environmental Law Institute, National Citizens' Coal Law Project, and the West Virginia Highlands Conservancy. Industry organizations commenting were Coal Operators and Associates, Inc., the National Mining Association and the West Virginia Mining and Reclamation Association. Individuals, professional associations, and mining companies included Don Gasper, Black and Associates, Kennecott Corporation, Skelly and Loy, Inc., and Texas Utilities Services, Inc.

Below is a summary of the major issues raised in the comments and OSM's responses to those issues. Where appropriate, similar comments are combined. Although the summary does not address each wording change suggested by the commenters, the AMD Policy Team carefully reviewed and considered each comment.

1. One commenter urged OSM to use the term acid rock drainage (ARD) rather than acid/toxic mine drainage (AMD) since acid drainage occurs naturally under certain conditions. The commenter also objected to a perceived implication that all acid drainage is toxic.

Response: OSM agrees that acid drainage occurs as a result of phenomena other than coal mining and that it is not always toxic. However, since the policy only addresses drainage from coal mining operations, OSM has retained the acronym "AMD," which is defined as including both acid and toxic drainage from those operations.

2. The environmental restoration goal for remediating pollutional discharges from pre-SMCRA sites should not translate into actions that would relieve parties that have a continuing reclamation responsibility for these sites from any ongoing liability. Nor should the watershed approach to AMD remediation as part of abandoned mine land reclamation programs be used to blur the distinction between pre-SMCRA and post-SMCRA sites for regulatory program purposes.

Response: OSM does not intend to interpret or implement this goal in a manner that would alter any clearly defined liability. Nor is this goal intended as a substitute for enforcement or other action on the part of the SMCRA regulatory

authority, NPDES permitting authority, or other pertinent agency to ensure that responsible parties fulfill their obligations. The use of all legal mechanisms to assure that responsible parties are held accountable for reclamation obligations is inherent in this goal.

3. While there was general support for the objective concerning the removal of programmatic and regulatory barriers that impede the use of existing funds for cleanup applications, some commenters opposed this objective to the extent that it would adversely impact the availability of abandoned mine land reclamation funds for projects that address health and safety problems. One commenter expressed the hope that this objective would result in restoration of funding for the Rural Abandoned Mine Program (RAMP).

Response: Existing OSM policy already classifies certain types of AMD restoration projects as eligible for inclusion within the health and safety priority. While the policy statement encourages States to fully implement this existing policy as part of their abandoned mine land reclamation programs, States retain the authority to assign initial site priorities and determine which projects will be included in funding requests. Also, if States wish to fund RAMP projects, they may do so through intergovernmental agreements with the Natural Resources Conservation Service. To the extent allowed by law, States have the flexibility to decide the appropriate use of abandoned mine land reclamation funds.

4. Another commenter inquired whether OSM intended to acquire property at the restoration sites and hold any such properties in perpetuity. The commenter also asked who would be responsible for operation and maintenance of the sites, whether discharges would be regulated under the NPDES program, and what monitoring protocol would be used.

Response: Nothing in the policy statement alters OSM's abandoned mine land reclamation regulations and guidelines, which discourage the acquisition and retention of real property. Nor does it affect the scope of the NPDES program or State and Federal agency implementation and monitoring responsibilities for abandoned mine reclamation projects.

5. One commenter stated that the environmental restoration objective concerning the removal of programmatic and regulatory barriers should be extended to Title V requirements. Specifically, the commenter urged the removal of stringent experimental practice requirements that impede the development and application of new technologies.

Response: While this comment may have merit, it lies outside the scope of the policy statement, which of necessity addresses only the interpretation and application of existing regulatory requirements.

6. Several commenters commended OSM for expanding the policy to include all coal mining regions, while one stated that coverage should be limited to States that have experienced AMD. To avoid unfairly burdening one region of the country (Appalachia), one Eastern State urged that the policy address the identification of acid- and toxic-forming materials and their impacts on revegetation in arid and semiarid regions of the country, where surface discharges are rare, groundwater infiltration rates are low, and AMD formation is largely absent, even in the presence of improper handling of acid- and toxic-forming materials.

Response: As befits a national policy, the goals, objectives, and strategies apply nationwide. Although concentrated in Appalachia, AMD is not limited to one region of the country. Nothing in the policy imposes an added burden on sites or areas that do not experience any type of AMD. With respect to the Eastern State's concern, the policy states that AMD includes toxic drainage unrelated to acidity. In addition, other aspects of the permitting process address revegetation and soil characteristics.

7. Several commenters expressed the view that current permitting and enforcement processes are adequate to prevent offsite damage to the hydrologic balance. They stated that the objectives and strategies under the environmental protection goal are redundant in view of existing requirements and would take scarce resources away from implementation of improved technologies and divert them to unproductive studies. Noting that current regulations and technological advancements have largely relegated AMD formation to the category of historical problems, the commenters further questioned whether OSM had adequately characterized the severity of current AMD problems.

Response: OSM agrees that current regulatory requirements are adequate and that technological advances have greatly improved AMD prevention and mitigation. However, because the science in this area remains inexact and because permit applications may not identify all acid-forming materials and groundwater sources, some sites continue to develop long-term AMD problems. The policy statement addresses these situations by encouraging the use of predictive analyses, AMD prevention and mitigation measures, and effective monitoring programs. It does not impose bureaucratic barriers to improvements in environmental protection, nor does it require data or studies beyond those needed to ensure adequate analyses and proper designs for prevention and mitigation measures.

8. Several commenters stated that the policy should be more specific in addressing perceived shortcomings in the existing permitting process, especially with respect to overburden sampling and analysis and identification of acid-forming materials and strata.

Response: The policy strongly encourages the use of predictive techniques to identify and characterize the risk of AMD. In the interest of flexibility and accommodation of evolving technology, OSM believes that it would be inappropriate to prescribe a precise methodology for overburden sampling and analysis.

9. Several commenters urged that the policy not be released prior to completion of the Acid Drainage Technology Initiative (ADTI), which is charged with developing better predictive and mitigative measures for AMD. One commenter noted that OSM's insistence on proceeding with the policy statement would jeopardize the good faith efforts of the industrial participants in the ADTI.

Response: OSM believes that the policy and the ADTI are complementary efforts in that the ADTI will assist in achieving the goals set forth in the policy. The ADTI is an ongoing project dedicated to the improvement of existing predictive, containment, neutralization, and avoidance technologies and the development of new approaches to AMD prevention and mitigation. Because science and technology are continually evolving, OSM does not envision an endpoint for this effort. Furthermore, the policy's environmental protection goal (the only one that relates to existing and proposed mining operations) essentially reiterates current regulatory requirements and provides guidance for achieving those requirements; it does not impose any new requirements.

10. Several commenters expressed concern that the policy encourages regulatory authorities to establish criteria to assess and measure material damage even though the Federal rules do not define this term and there is little other Federal guidance. One State questioned the viability of this provision, noting that State law may prohibit the regulatory authority from adopting regulations or policies more stringent than Federal requirements. One commenter erroneously interpreted this provision as requiring the adoption of a "common" definition with nationwide applicability. Other commenters argued that the determination of material damage does not lend itself to the establishment of set guidelines because of the variability in site-specific conditions.

Response: Section 510(b)(3) of SMCRA requires regulatory authorities to determine whether proposed operations have been designed to prevent material damage to the hydrologic balance outside the permit area. This provision inherently requires the use of guidelines or criteria, since even case-by-case determinations require the application of some type of damage threshold and impact measures.

Although OSM declined to define material damage or establish national guidelines (apart from compliance with water quality standards and effluent limitations under the Clean Water Act) in its rules or their preambles, the preamble to the 1983 hydrology rules states that “OSM agrees that the regulatory authorities should establish criteria to measure material damage.” 48 FR 43973, September 26, 1983. Therefore, the policy is consistent with the Act, its implementing regulations, and their preambles in that it encourages States to develop material damage guidelines but does not establish national criteria or guidelines.

Instead of establishing rigid guidelines to implement this policy, the regulatory authority could develop a flexible list of factors to consider in establishing thresholds and assessing material damage on a case-by-case basis. These factors and thresholds should be refined periodically in concert with developments in the Acid Drainage Technology Initiative. One commenter suggested establishing and periodically reviewing a database comprised of baseline water quality information and surface and ground water monitoring data. This type of database might provide an appropriate mechanism for assessing whether material damage has occurred, but it cannot substitute for the thresholds themselves.

11. Several commenters expressed concern that OSM exceeded its statutory authority by focusing on section 510(b)(3) of SMCRA, which provides that no permit application may be approved unless the regulatory authority finds that the operation has been designed to prevent material damage to the hydrologic balance outside the permit area, and interpreting that section as requiring the prevention of AMD formation. The commenters noted that sections 515(b)(10) and 516(b)(9) of SMCRA refer to minimization (rather than prevention) of hydrologic disturbances and avoidance (rather than the prevention) of AMD, with the prevention of AMD formation being only one of the three avoidance mechanisms listed in these sections.

Response: The minimization and avoidance provisions of sections 515(b)(10) and 516(b)(9) of SMCRA do not negate the material damage prevention requirement of section 510(b)(3). Furthermore, the Act specifies that the provisions cited by the commenters apply only during mining and reclamation. OSM interprets this limitation as meaning that conducting operations in a manner likely to result in AMD production is acceptable only when AMD formation is expected to be a temporary phenomenon. In other words, discharge treatment is an appropriate means of avoiding AMD and minimizing damage to the hydrologic balance only when the need for treatment has a defined endpoint. However, in response to the commenters' concerns, the policy has been revised to include an additional objective that, consistent with the language of sections 515(b)(10) and 516(b)(9) of SMCRA, identifies treatment to avoid AMD as one potential means of

minimizing disturbances to the hydrologic balance and protecting surface and ground water systems both during and after mining operations and during reclamation.

12. Several commenters expressed concern that the policy addressed only offsite damage and did not reflect those provisions of SMCRA that require protection of the hydrologic balance within the permit area.

Response: Sections 508(a)(13), 515 (b)(10), and 516(b)(9) of SMCRA require protection of the quality and quantity of surface and ground water systems and minimization of disturbances to the hydrologic balance at the minesite and in associated offsite areas. Accordingly, the policy has been revised to include an objective related to these requirements. However, OSM does not interpret these requirements as prohibiting onsite damage that is an unavoidable side effect of the mining process, provided that the operation has been designed to minimize these impacts and prevent material damage to the hydrologic balance outside the permit area, as required by section 510(b)(3) of the Act.

13. Several commenters interpreted the policy as prohibiting the issuance of a permit whenever the determination of the probable hydrologic consequences of mining indicates that the operation is likely to result in postmining AMD formation requiring long-term treatment. Others expressed concern that the policy would allow permit approval in these situations and thus would not truly prevent AMD.

Response: The policy prohibits the approval of surface coal mining operations that would result in the creation of postmining AMD requiring perpetual treatment. OSM believes that such operations do not constitute reclamation as envisioned under SMCRA. Approval of an operation with a planned postmining pollutional discharge is appropriate only if the discharge has a known endpoint and if the applicant also posts adequate financial assurance to cover estimated treatment costs for the life of the discharge.

14. One commenter argued that the policy fails to acknowledge that section 522 of SMCRA requires that permits be denied if reclamation is not technologically and economically feasible and that *Rith Energy* (111 IBLA 239) requires avoidance of AMD and toxic drainage, not merely management or treatment of the drainage.

Response: Section 522(a)(2) provides that, when evaluating an unsuitability petition, the regulatory authority must designate lands as unsuitable for surface coal mining operations if reclamation is not technologically and economically feasible. This section does not establish a standard for permit issuance.

The approach adopted in the policy statement is fully consistent with the *Rith Energy* decision in which the IBLA upheld OSM's refusal to approve a mining plan that sought to minimize, rather than avoid, AMD. In that case, the IBLA agreed with OSM that "the statute, as properly read, requires the agency to minimize disturbance to the prevailing hydrologic balance by avoiding acid or toxic mine drainage. Minimizing the contact of water and toxic-producing deposits, as argued by petitioner [Rith Energy], is not the standard." 111 IBLA 249.

The policy statement accords with *Rith Energy* because it provides that "[p]ermits may only be approved where the operation is designed to ensure that off-site material damage to the hydrologic balance will be *prevented*." (Emphasis added.) Permittees may not plan in advance to allow AMD to occur and then simply mitigate the effects of the AMD. However, the policy also recognizes that AMD will nevertheless occur on occasion despite the use of best available technology to prevent its formation. In these cases, the policy encourages the use of the best available technology to mitigate the effects of the AMD. The *Rith* case did not address instances in which AMD occurs despite an operator's compliance with a mining plan that employs the best available technology to avoid AMD.

15. Several commenters alleged that the policy did not address section 515(b)(14) of SMCRA, which requires the disposal of acid-forming and toxic materials in a manner designed to prevent contamination of surface or ground waters.

Response: The policy includes provisions that encourage the use of predictive techniques and adequate AMD mitigation and prevention measures. These provisions cover proper disposal of acid-forming and toxic materials.

16. Several commenters objected to the requirement that permittees post financial guarantees for treatment of pollutional discharges during and after land reclamation. One commenter alleged that this requirement is contrary to the agency's termination of jurisdiction rule, which "expressly allows bond release where post-mining drainage requires treatment." The same commenter argued that this requirement exceeds OSM's authority under SMCRA and is in fundamental conflict with the scope of the NPDES program, which does not apply effluent limitations to discharges from sites upon which mining and land reclamation activities have been completed.

Response: Section 509(a) of the Act requires that each permittee post a performance bond conditioned upon faithful performance of all the requirements of the Act and the permit. Paragraph (b) of this section of the Act specifies that "[t]he amount of the bond shall be sufficient to assure the completion of the reclamation plan if the work had to be performed by the regulatory authority in

the event of forfeiture." The hydrologic reclamation plan is part of the reclamation plan to which this section refers. Section 519(c) of SMCRA authorizes release of this bond only when the regulatory authority is satisfied that the reclamation required by the bond has been accomplished, and paragraph (c)(3) specifies that "no bond shall be fully released until all reclamation requirements of this Act are fully met." Furthermore, section 519(b) of the Act provides that whenever a bond release is requested, the regulatory authority must conduct an inspection to evaluate the reclamation work performed, including "whether pollution of surface or subsurface water is occurring, the probability of continuance of future occurrence of such pollution, and the estimated cost of abating such pollution." Therefore, there is no doubt that, under SMCRA, the permittee must provide a financial guarantee to cover treatment of postmining discharges when such discharges develop and require treatment.

Contrary to the commenter's statement, the termination of jurisdiction rule at 30 CFR 700.11(d) does not expressly allow bond release in situations in which postmining pollutional discharges exist. Furthermore, the preamble to this rule clarifies that bond release in these situations is appropriate only in the presence of "assurances which are provided through a contract or other mechanism enforceable under other provisions of law to provide, for example, long term treatment of an alternative water supply or acid discharge." 53 FR 44361-62, November 2, 1988. In referencing a contract, the preamble clearly envisions that these assurances will result in continued treatment or implementation of other remediation measures, which translates to a financial commitment. In keeping with the preamble, the policy statement recognizes that the required financial assurance may take a form other than those associated with a traditional performance bond.

Finally, nothing in the policy poses a conflict with the Clean Water Act. Effluent limitations for pollutional postmining discharges are entirely the responsibility of the NPDES permitting authority, as is the establishment of water quality standards for receiving streams. However, the SMCRA regulatory authority has an independent responsibility to ensure protection of the hydrologic balance. The AMD policy enhances OSM's ability to implement these responsibilities under SMCRA.

17. One commenter stated that requiring adequate performance bond coverage for AMD treatment and remediation is essential to prevent future AMD. Other commenters argued against requiring bond for potential AMD, noting that such bonds would likely be large, difficult to obtain (especially for small operators), and could result in an effective ban on mining certain coal seams. The commenters noted that OSM does not

require bond coverage for other potential adverse impacts (such as landslides and subsidence) until these events actually occur.

Response: The policy requires the posting, prior to permit issuance, of adequate financial assurance to ensure completion of the hydrologic reclamation plan. The policy does not require bonding for potential AMD unless the determination of the probable hydrologic consequences of mining predicts that such drainage will occur after the completion of mining and land reclamation activities. Such a prediction would doom issuance of an initial permit, but not a permit revision necessitated by the development of unanticipated AMD during mining or reclamation. When unanticipated pollutional discharges occur, the policy statement and OSM regulations (30 CFR 800.15(a)) both require that the regulatory authority adjust the bond to fully cover abatement costs, including estimated treatment expenses.

OSM recognizes that the amount of financial assurance needed may be substantial. However, SMCRA provides no authorization for the transfer of postmining treatment expenses from the permittee to society at large. Section 509(b) of the Act specifies that “[t]he amount of the bond shall be sufficient to assure the completion of the reclamation plan if the work had to be performed by the regulatory authority in the event of forfeiture.”

18. A commenter questioned the feasibility of the financial assurance requirement because of the difficulty in estimating bond amounts prior to the actual occurrence of AMD. The commenter suggested establishment of a bond pool for AMD liability as a viable alternative.

Response: As previously noted, the policy statement does not allow permit approval when postmining AMD is likely to occur. States have the option of establishing a bond pool to cover abatement and treatment costs for unanticipated postmining pollutional discharges if they wish to do so.

19. Several commenters questioned whether regulatory authorities have the ability to define the duration of postmining treatment needs or determine what will constitute an adequate financial assurance for an inherently unknown length of time. Others noted that requiring permittees to post financial assurance for unanticipated pollutional postmining discharges will prove ineffective since no surety or bank is likely to underwrite such a bond.

Response: In the absence of definitive knowledge about the duration of postmining pollutional discharges, the financial assurance would have to provide for perpetual treatment. Actuarial formulas are available to determine the required

amount of financial assurance, which would vary depending on the type of instrument involved.

OSM recognizes that relatively few permittees are likely to be able to obtain a third-party bond for AMD treatment. However, self-bonded entities and well-capitalized firms may be capable of meeting this requirement. Regardless, inability to comply is not a reason to delete this requirement.

20. One commenter objected to the policy's reliance on risk management, arguing that any possibility of postmining AMD should result in a prohibition on permit issuance.

Response: OSM believes that this approach is unreasonably restrictive. Section 507(b)(11) of SMCRA requires that each permit applicant prepare a determination of the *probable* hydrologic consequences of the mining and reclamation operations. It does not require a determination of all *possible* consequences. Similarly, this paragraph requires that the regulatory authority assess the *probable* cumulative hydrologic impacts of all mining in the area. Use of the term "probable" means that some element of risk is acceptable. The Acid Drainage Technology Initiative is directed in part toward improving the accuracy of predictive methodologies and reducing the frequency of unanticipated postmining pollutional discharges.

21. Several commenters objected to the policy's requirement that inspectors evaluate the effectiveness of the operation and reclamation plan with respect to AMD prevention and mitigation, noting that inspectors lack the technical expertise required for such evaluations.

Response: The policy does not require or encourage the use of inspectors as a substitute for technical or permitting staff. The purpose of the inspection objective is to encourage pertinent data collection and site observations during routine inspections. Technical staff will review the data and observations to identify sites that may require more in-depth evaluation of the adequacy of the operation and reclamation plan. Increased interaction between technical staff and inspectors will provide an excellent feedback mechanism and result in enhancement of both the inspection and permitting processes. The policy has been revised to clarify its intent.