



Mountaintop Mining: Background on Current Controversies

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April 12, 2010

Congressional Research Service

7-5700

www.crs.gov

RS21421

Summary

Mountaintop removal mining involves removing the top of a mountain in order to recover the coal seams contained there. This practice occurs in six Appalachian states (Kentucky, West Virginia, Virginia, Tennessee, Pennsylvania, and Ohio). It creates an immense quantity of excess spoil (dirt and rock that previously composed the mountaintop), which is typically placed in valley fills on the sides of the former mountains, burying streams that flow through the valleys. Critics say that, as a result of valley fills, stream water quality and the aquatic and wildlife habitat that streams support are destroyed by tons of rocks and dirt. The mining industry argues that mountaintop mining is essential to conducting surface coal mining in the Appalachian region and that surface coal mining would not be economically feasible there if producers were restricted from using valleys for the disposal of mining overburden.

Mountaintop mining is regulated under several laws, including the Clean Water Act (CWA) and the Surface Mining Control and Reclamation Act (SMCRA). In June 2009, officials of the Environmental Protection Agency (EPA), the U.S. Army Corps of Engineers (Corps), and the Department of the Interior signed a Memorandum of Understanding outlining a series of administrative actions under these laws to reduce the harmful environmental impacts of mountaintop mining and surface coal mining in Appalachia. The plan includes a series of near-term and longer-term actions that emphasize specific steps, improved coordination, and greater transparency of decisions. The actions are being implemented through regulatory proposals, guidance documents, and review of pending applications for permits to authorize mountaintop mining-valley fill operations. This report provides background on regulatory requirements, controversies and legal challenges to mountaintop mining, and recent actions and proposals by the Administration. Congressional attention to these issues, including legislation that seeks to restrict the practice (H.R. 1310, the Clean Water Protection Act, and S. 696, the Appalachia Restoration Act), also is discussed.

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What Is Mountaintop Mining?

The environmental, economic, and societal impacts of the surface mining practice termed mountaintop removal mining have attracted considerable attention. This type of surface mining occurs in an area of approximately 12 million acres located in portions of Kentucky, West Virginia, Virginia, Tennessee, Pennsylvania, and Ohio.

As its name suggests, mountaintop removal mining involves removing the top of a mountain in order to recover the coal seams contained in the mountain. Explosives are used to break the mountain's rock, and massive earth-moving equipment, often including equipment called draglines, removes the spoil (i.e., the dirt and rock that composed the mountaintop over or between the coal seams). While federal law calls for excess spoil to be placed back in the mined areas—returning the lands to their approximate original contour (AOC)—that result ordinarily cannot be accomplished with mountaintop mining because broken rock takes up more volume than did the rock prior to mining and because there are stability concerns with the spoil pile. Mountaintop removal creates an immense quantity of excess spoil, which is typically placed in valley fills on the sides of the former mountains. One consequence is that streams flowing through the valleys are buried.

All types of surface and underground coal mining in Appalachia generate excess spoil fills due to the increased volume of broken rock, limitations on the steepness and height to which broken rock may be placed to achieve a stable slope, and the steep topography of the region. Large mines may be surrounded by several valley fills. Depending on the local topography and the profile of those valleys, a single fill may be over 1,000 feet wide and over a mile long.

While mountaintop removal mining has been practiced in some form since the 1960s, it became a prevalent coal mining technique in parts of central Appalachia during the 1990s for several reasons. First, as the demand for electricity increased, so has the demand for the relatively clean-burning, low-sulfur coal found in Appalachia. Second, coal supplies near the surface have been significantly depleted. Third is the development of large surface mining equipment (draglines) capable of moving over 100 cubic yards of earth in a single scoop.

For many years, excess spoil from coal mining was generally placed in the extreme headwaters of streams, affecting primarily ephemeral streams that flow intermittently only in direct response to precipitation in the immediate watershed. Because smaller upstream disposal sites are exhausted and because of the increase in mountaintop mining activity, today the volume of a single stream fill can be as much as 250 million cubic yards. As a result, streams are eliminated, stream chemistry is harmed by pollutants in the mining overburden, and downstream aquatic life is impaired. EPA estimates that, from 1992 to 2010, almost 2,000 miles of Appalachian streams were buried by mountaintop coal mining.¹

¹ Peter S. Silva, Assistant Administrator for Water, and Cynthia Giles, Assistant Administrator for Enforcement and Compliance Assurance, *Improving EPA Review of Appalachian Surface Coal Mining Operations under the Clean Water Act, National Environmental Policy Act, and the Environmental Justice Executive Order*, U.S. Environmental Protection Agency, Detailed Guidance, April 1, 2010, p. 2, http://www.epa.gov/owow/wetlands/guidance/pdf/appalachian_mtntop_mining_detailed.pdf.

Regulatory Setting

Regulation of valley fills associated with mountaintop removal mining is primarily under the authority of two federal statutes, the Surface Mining Control and Reclamation Act (SMCRA, 30 U.S.C. §1201) and the Clean Water Act (CWA, 33 U.S.C. §1252), and involves several federal and state agencies. The two laws provide for separate regulatory programs with different purposes and different permitting requirements and procedures. For example, the CWA focuses primarily on regulating discharges into waters of the United States, while SMCRA regulates a broad range of environmental and other impacts of surface coal mining and reclamation operations.

SMCRA addresses the necessary approvals for surface mining operations, as well as inspection and enforcement of mine sites until reclamation responsibilities are completed and all performance bonds are released. SMCRA permits may be issued by the Office of Surface Mining, Reclamation and Enforcement (OSM), U.S. Department of the Interior, or by qualified states, only if it has been shown that the proposed mining activities will satisfy general performance standards applicable to all surface coal mining operations.² Among those standards, SMCRA addresses disturbances at the mine site and in associated offsite areas, as well as the quality and quantity of water in surface and ground water systems both during and after surface coal mining operations. While SMCRA generally requires that surface-mined areas be reclaimed so that they closely resemble the general surface configuration of the land prior to mining (i.e., AOC), the law and OSM regulations allow a variance from AOC for mountaintop mining operations under certain conditions.

The CWA prohibits the discharge of any pollutant from any point source into the waters of the United States, except in compliance with a permit issued under one of the two permit programs established by the statute. The two permit programs are the National Pollutant Discharge Elimination System (NPDES) program, administered by the Environmental Protection Agency (EPA) under CWA Section 402, and the dredge and fill permit program administered by the U.S. Army Corps of Engineers (Corps) under CWA Section 404.³ Mountaintop mining and other surface coal mining operations typically require both types of permits—a Section 404 permit for the discharge of mining overburden into waters of the United States, and a Section 402 permit for discharges from sediment ponds and any other stormwater discharges. The two permit programs employ different regulatory approaches.

The NPDES program focuses primarily (but not exclusively) on discharges such as wastewater discharges from industrial operations and sewage treatment plants. Section 402 permits must include limitations on the quantities, rates, and concentrations of pollutants that reflect treatment with available pollution control technology and any more stringent limitations necessary to meet state-established water quality standards for the receiving water. The standard for issuance of a Section 402 permit is compliance with pollutant limitation and control provisions in the act.

The Corps and EPA have complementary roles in implementing the Section 404 permit program. Under Section 404, the Corps issues permits for the discharge of dredged or fill material, using a

² In the Appalachian states where mountaintop mining occurs, the SMCRA regulatory program has been delegated by the federal government to state agencies, except in Tennessee.

³ The CWA authorizes delegation of both of these permit programs to qualified states. The NPDES program has been delegated to 46 states, including each of the Appalachian states. The Section 404 program has been delegated to two states, Michigan and New Jersey.

set of environmental guidelines promulgated by EPA in conjunction with the Corps. These guidelines are intended to provide a comprehensive means of evaluating whether any discharge of fill is environmentally acceptable. The standard for issuance of a 404 permit is consideration of the full public interest by balancing the favorable impacts of a proposed activity against the detrimental impacts to reflect the national concerns for both the protection and utilization of important resources. A discharge is categorically prohibited if it would significantly degrade water quality. In addition, no discharge may be allowed if there is a less environmentally damaging practicable alternative. Where there is no other alternative, the discharge may be allowed if the applicant has taken all practicable steps to minimize the amount of material discharged and to compensate for unavoidable impacts through mitigation.

Section 404 permits consist of two basic types: Individual permits for a particular site and nationwide (general) permits for categories of discharges that are similar in nature and have no more than minimal adverse impacts, individually and cumulatively, on the waters of the United States. If the discharge may have more than minimal impacts, an individual permit is required. Nationwide permits cover approximately 74,000 activities annually (about 90% of total Corps permits) and involve less regulatory burden and time than authorization by individual permits. Disposal of excess overburden associated with mountaintop removal mining has generally been permitted under Nationwide Permit 21 (NWP 21), which authorizes discharges from surface coal mining activities that result in no more than minimal impacts (site-specifically and cumulatively) to the aquatic environment.⁴ The use of NWP 21 in conjunction with mountaintop mining in the Appalachian region has been controversial and has been challenged in litigation. The Obama Administration has proposed to suspend its use and permanently prohibit its use for such specific activities (these developments are discussed below).

The U.S. Fish and Wildlife Service (FWS) also has responsibilities relevant to mountaintop removal mining. FWS implements and enforces the Endangered Species Act (35 U.S.C. §1531) and the Fish and Wildlife Coordination Act (16 U.S.C. §661), and under both laws, agencies proposing projects affecting U.S. waters are required to consult with FWS to ensure that fish and wildlife conservation and impacts on threatened or endangered species are considered. Coordination with FWS is required for both SMCRA and CWA permits.

Criticism and Legal Challenges to Mountaintop Mining

Because of the increase in valley fill disposal of mountaintop mining overburden in areas of Appalachia, the practice has drawn public attention and criticism. Critics say that, as a result of valley fills, streams and the aquatic and wildlife habitat that they support are destroyed by tons of rocks and dirt. Flow regimes are altered, increasing the likelihood and severity of floods, and the water quality downstream from fills also is significantly degraded. In addition, mountaintop removal can crack the walls and foundations of nearby homes; cause dust, noise and vibration from blasting; collapse drinking water wells; and destroy nearby streams for fishing, hiking, swimming or aesthetic pleasure. It also has forced the relocation of whole communities.⁵

⁴ For additional information, see CRS Report 97-223, *The Army Corps of Engineers' Nationwide Permits Program: Issues and Regulatory Developments*, by Claudia Copeland.

⁵ Daniel L. Rosenberg, "Mountaintop Mining and Proposed Rule Change Will Waste Clean Water Act," *National* (continued...)

Environmental groups argue that the practice of authorizing valley fills under Section 404 is unlawful because mining overburden is waste material which pollutes and destroys waterways, and impacts are far more than minimal, which is the standard for coverage by a nationwide permit.

The mining industry argues that mountaintop mining is essential to conducting surface coal mining in Appalachia. The poor stability of the soil surrounding coal deposits in this region makes it impossible to mine the coal using underground mining techniques. Waste disposal in valley fills is a necessary part of that activity because of the steep topography of the region, and they assert that mountaintop mining would not be economic or feasible if producers were restricted from using valleys for the disposal of mining overburden. Requiring Section 402 permits would effectively prohibit a broad range of mining activities which have been allowed by longstanding practice, they say.

Critics have been using litigation to challenge the practice. In 1998, a West Virginia citizen group sued the state of West Virginia and the Corps for failure to prevent or enforce against environmental violations caused by mountaintop removal practices. The principal claim under SMCRA was that the state was failing to enforce OSM's buffer zone rule, which protects intermittent and perennial streams from disturbance by coal mining activities.⁶ In addition, the lawsuit asserted that the Corps had been granting permits that allow disposal of waste in waters of the United States, contrary to the CWA, through permits under the nationwide permit program that have greater than minimal adverse effects, individually and cumulatively. Some of the claims were settled when the federal agencies agreed to complete a Programmatic Environmental Impact Statement (PEIS) of the effects of mountaintop removal mining. The Corps also agreed that proposed valley fills in West Virginia in watersheds of at least 250 acres must be permitted by individual, not nationwide, permits.

The remaining claims were addressed in an October 1999 ruling which held that disposal of mining spoil in valley streams violates federal and state mining rules and the CWA.⁷ Under the ruling, mining spoil was reclassified from "dredge and fill material," requiring a CWA Section 404 permit, to "waste material" that is subject to CWA Section 402 permit requirements, thus raising the regulatory hurdles for disposing of mining waste.

Upon appeal, the district court ruling was overturned in a decision that dealt with jurisdiction and state sovereignty issues.⁸ The court held that the stream buffer regulation at issue was, in fact, a matter of state law, not federal law and, thus, the case should not have been brought in federal court. The Clinton Administration had sided with the industry by appealing the district court's finding that mountaintop mining must be regulated under CWA Section 402, but it concurred with the related finding, supported by environmental groups, that the activity violates stream buffer

(...continued)

Wetlands Newsletter, vol. 22, no. 4, July-August 2000, p. 12.

⁶ The buffer zone rule, last revised in 1983, provided that no land within 100 feet of a perennial or intermittent stream shall be disturbed by surface mining activities, including the dumping of mining waste, unless the regulatory authority grants a variance that specifically authorizes surface mining activities closer to or through such a stream. The regulatory authority must find that the proposed mining activity will not cause or contribute to a violation of applicable state or federal water quality standards and will not adversely affect water quantity and quality or other environmental resources of the stream.

⁷ *Bragg v. Robertson*, 72 F.Supp.2d 642 (S.D.W.Va. 1999).

⁸ *Bragg v. Robertson*, 248 F.3d 275 (CA4 2001).

zone requirements under SMCRA. In 2002, the Supreme Court declined to hear a challenge to the Fourth Circuit decision.

In October 2005, the Corps, EPA, and other federal agencies released a final PEIS on the impacts of mountaintop mining and valley fills,⁹ as promised in the 1999 partial settlement of *Bragg*. It identified three alternatives for improving coordination of regulatory efforts to limit the negative impacts of mountaintop mining. Under the preferred alternative, OSM, the Corps, EPA, and state agencies would determine the size, number, and location of valley fills for a proposed operation, under a joint permit application integrating the CWA and SMCRA programs. The Corps would make case-by-case determinations whether a project would be covered under NWP 21 or under an individual Section 404 permit. More than 70,000 public comments were submitted on the draft PEIS. Industry groups favored continued use of general permit authorizations, while environmental groups said that the preferred alternative fails to place adequate limits on mountaintop mining and valley filling. A number of comments were critical that all of the alternatives were process alternatives, and none would minimize the environmental impacts from valley fills. The agencies responded that the alternatives were appropriate for a programmatic EIS and that they would provide increased environmental protection. The agencies also said that a number of changes to agency rules, policy, and guidelines would follow.

OSM's Stream Buffer Zone Rule

The 2003 draft PEIS called for OSM to make changes to its stream buffer zone rule to improve consistency with the Clean Water Act, and OSM proposed changes to that rule in 2004. However, OSM subsequently decided to prepare a new PEIS and to draft a revised rule, both of which were released in 2007.¹⁰

OSM issued a final revised buffer zone rule in December 2008. As described by OSM, the final rule requires that surface coal mining operations be designed to minimize the amount of spoil placed outside the mined-out area, thus minimizing the amount of land disturbed. It also requires that, to the extent possible, surface coal mining and reclamation operations be designed to avoid disturbance of perennial or intermittent streams and the surface of lands within 100 feet of those streams. If avoidance is not reasonably possible, the rule requires that the permit applicant develop and analyze a range of reasonably possible alternatives and select the one that would have the least overall adverse impact on fish, wildlife, and related environmental values.¹¹ According to OSM, the final rule does not mandate avoiding placement of coal mine waste in or within 100 feet of perennial or intermittent streams in all cases, because “there is sometimes no viable alternative to the construction of coal mine waste disposal facilities in perennial or intermittent streams and their buffer zones, in which case avoidance is not reasonably possible.”¹²

The 2008 revised rule eliminated the provision in the 1983 stream buffer zone rule that had required a finding that the proposed activity would not cause or contribute to a violation of state or federal water quality standards. In doing so, OSM said that the previous language more closely

⁹ <http://www.epa.gov/Region3/mtntop/eis2005.htm>.

¹⁰ 72 Federal Register 48890, August 24, 2007.

¹¹ Department of the Interior, Office of Surface Mining Reclamation and Enforcement, “Excess Spoil, Coal Mine Waste, and Buffers for Perennial and Intermittent Streams; Final Rule,” 73 Federal Register 75814-75885, December 12, 2008, p. 75875.

¹² *Ibid*, p. 75833.

resembled the CWA than the underlying provisions of SMCRA. Because the SMCRA rule does not substitute for or supersede the CWA, mine operators still must comply with the requirements of that law.

Both industry and environmental groups said that the final rule does little to change the existing practice of disposing mountaintop mining spoil into valleys and streams. In fact, OSM stated that a key purpose of the rule was to conform the regulation to historic practice of federal and state authorities. Environmental groups said that the final rule would allow stream burial and water quality degradation to continue at current rates; a coalition of these groups filed a lawsuit challenging the rule.¹³ The Obama Administration requested that the federal court hearing this case vacate the 2008 stream buffer zone rule and remand it to the Department, in order to return immediately to the more stringent 1983 rule until a replacement rule can be adopted. However, the court rejected the Administration's request in August 2009 (see discussion below, "Administrative Actions and Congressional Activity").

Other Litigation

In other litigation challenging authorization of a specific mountaintop mining operation in Kentucky (rather than general practice), a federal district court ruled in 2002 that the disposal of waste from mountaintop mining into U.S. waters is not allowed under Section 404, and the court permanently enjoined the Corps from issuing Section 404 permits for the disposal of mountaintop mining overburden where the purpose is solely to dispose of waste. In January 2003, a federal court of appeals ruled that the district court's action was too broad and lifted the injunction prohibiting the Corps from issuing Section 404 permits for disposal of mountaintop mining waste.¹⁴

In 2007, individual permits for four mountaintop mining operations in West Virginia were overturned by a federal district court. The court found that the probable impacts of the valley fills would be significant and adverse, that the mitigation plans for each permit were not sufficient to compensate for those adverse impacts, and that the Corps inadequately evaluated the cumulative impacts of the projects. The Corps appealed the court's orders, and in February 2009, the court of appeals reversed and vacated the district court's actions.¹⁵ The court found that the Corps had not acted arbitrarily or capriciously in its evaluation of the projects' impacts, and it found the Corps' proposed mitigation plans sufficient for purposes of complying with the National Environmental Policy Act (NEPA). One judge on the panel wrote in dissent that in his view the Corps had failed to establish that the projects will have no significant adverse environmental impact, and thus the agency had not satisfied the requirements of NEPA. After the court rejected environmentalists' request for *en banc* rehearing, in September these groups petitioned the Supreme Court to review the Fourth Circuit's ruling.

Citizen groups also have filed lawsuits seeking generally to halt the Corps' use of Nationwide Permit 21 for mountaintop mining operations. In the first such case, a federal district court ruled that NWP 21 violates the Clean Water Act by authorizing activities that have more than minimal adverse environmental effects. The court enjoined the Corps from using NWP 21 to authorize

¹³ Coal River Mountain Watch v. USA, case no. 1:08-cv-02212-HHK C, D.D.C., filed December 22, 2008.

¹⁴ Kentuckians for the Commonwealth v. Rivenburgh, 317 F.3d 425 (CA4 2003).

¹⁵ Ohio Valley Environmental Coalition v. Aracoma Coal Company, 556 F.3d 177 (CA 4 2009).

new mountaintop mining in southern West Virginia and ordered the Corps to revoke previous authorization for 11 operations. On appeal, the judgment of the district court and the injunction against NWP 21 were vacated when the court of appeals found that the Corps had complied with the Clean Water Act when it promulgated NWP 21.¹⁶

In the most recent such case, a U.S. district court ruled in March 2009 that, when the Corps issued Nationwide Permit 21, its analysis of cumulative impacts was inadequate and its reliance on compensatory mitigation in determining the environmental impacts of valley fills was arbitrary and capricious.¹⁷ The court again enjoined the Corps from using NWP 21 to authorize mountaintop mining activities in the Southern District of West Virginia. The decision requires that mining operations operating under Nationwide Permit 21 be halted in that region, but mining companies can seek individual permits from the Corps or appeal the decision. In June, the Obama Administration filed a notice of appeal of the district court's ruling, which officials said was done for procedural reasons, as no policy decisions had been made.

Administrative Actions and Congressional Activity

Additional controversies arose because of a proposal by EPA and the Corps in 2000 to revise regulations that implement CWA Section 404 by redefining the terms “fill material” and “discharge of fill material.” One result of the proposal would be regulatory definitions more consistent with the Administration's position in the then-ongoing *Bragg* litigation, namely its view that regulating mountaintop removal mining under CWA Section 404 is not inconsistent with that act. This proposal was not finalized before the Clinton Administration left office but was finalized by the Bush Administration, substantially as proposed, in May 2002.¹⁸

The revised rules were intended to clarify the regulatory definition of fill material—which determines whether the activity is subject to Section 404 permit requirements or more stringent Section 402 requirements—by replacing two separate and inconsistent definitions with a single, common definition to conform with long-standing Corps and EPA practice in regulating surface mining activities. According to the Clinton and Bush Administrations, the previous definitional differences had led to considerable confusion, as reflected in part in the *Bragg* and *Kentuckians for the Commonwealth* lawsuits, but the changes were not driven solely by concerns over regulating mountaintop mining practices. Environmental groups continue to contend that the disposal practice is unlawful under the Clean Water Act, and that the revised EPA and Corps rules allow for inadequate regulation of disposal activities, including coal mining waste.

Recent Administration Actions

The Obama Administration has joined the debate over mountaintop mining. In particular, EPA has begun reviewing pending CWA permit applications for surface coal mining operations in the

¹⁶ *Ohio Valley Environmental Coalition v. Bulen*, 429 F.3d 493 (CA4 2005).

¹⁷ *Ohio Valley Environmental Coalition v. Dana R. Hurst*, 604 F. Supp. 2d 860, (S.D. W. Va. 2009).

¹⁸ Department of the Army, Corps of Engineers, and Environmental Protection Agency, “Final Revisions to the Clean Water Act Regulatory Definitions of ‘Fill Material’ and ‘Discharge of Fill Material,’” 67 *Federal Register*, No. 90, May 9, 2002, pp. 31129-31143. For additional background information on the 2002 rule, see CRS Report RL31411, *Controversies over Redefining “Fill Material” Under the Clean Water Act*, by Claudia Copeland.

Appalachian states, many of which had been on hold for months in light of the litigation on which the U.S. Court of Appeals for the Fourth Circuit ruled in February 2009, *Ohio Valley Environmental Coalition v. Aracoma Coal* (see above, “Other Litigation”). Following that ruling, EPA Administrator Lisa Jackson announced that EPA would review pending surface coal mining permit requests in Appalachia to ensure protection of the environment.

On June 11, 2009, officials of EPA, the Corps, and the Department of the Interior signed a Memorandum of Understanding (MOU) and Interagency Action Plan (IAP) outlining a series of administrative actions to reduce the harmful environmental impacts of mountaintop mining. The plan includes a series of near-term and longer-term actions that emphasize specific steps, improved coordination, and greater transparency of decisions.¹⁹

Also on June 11, EPA and the Corps signed a specific agreement detailing criteria that will be used to coordinate and expedite review of pending permit applications for surface coal mining operations in Appalachia (including but not limited to mountaintop mining projects). EPA identified 79 projects for additional environmental review and developed a joint Enhanced Coordination Procedure with the Corps for evaluation of the permits. Based on its initial review, EPA stated that each of the 79 projects, as proposed, is likely to result in significant harm to water quality, either individually or cumulatively. EPA cited its responsibilities under the Clean Water Act as authority for evaluating 404 permit applications and site-specific environmental conditions.²⁰ Under the coordination process, the Corps is responsible for beginning discussions with EPA and the mining companies to reduce anticipated environmental effects, and generally the individual reviews are expected to be completed within 60 days of notification by the Corps. As of April 1, 2010, EPA reviews of five projects had been completed (supporting issuance of modified permits), the Corps had issued permits for four of the five, and one other EPA review was underway. Sixteen permit applications had been withdrawn by the applicants, and the remaining 57 were pending, awaiting Corps notification to begin the formal EPA review.²¹

OSM’s stream buffer zone rule (discussed above) also was addressed in the IAP. The Department of the Interior asked a federal court to vacate the revised rule that was issued by the Bush Administration in December 2008, saying that the rule does not adequately protect water quality and stream habitat. OSM officials had hoped to return to using the more stringent 1983 rule until, in the longer term, a replacement rule can be developed. As noted above, the court rejected this request, thus leaving the 2008 rule in place until a new regulation is issued. However, OSM officials also have stated that because of litigation over the 2008 revisions, states were never directed to amend their programs to conform with the revisions—thus, states are still operating under the 1983 rule. Nevertheless, in November, OSM identified a broad set of regulatory options that it is considering for revising the 2008 rule, ranging from formally reinstating the 1983 rule with small conforming changes, to requiring stricter buffer zone requirements for mountaintop mining operations on steep slopes.²² OSM officials have said that the agency’s goal is to issue a

¹⁹ For additional information on these Administration actions, see <http://www.epa.gov/owow/wetlands/guidance/mining.html>.

²⁰ For information on the Enhanced Coordination Procedures, including project-specific information, see <http://www.epa.gov/owow/wetlands/guidance/mining-screening.html>.

²¹ For current status of projects under the Enhanced Coordination Procedures, see <http://www.epa.gov/owow/wetlands/guidance/mining-projects.html>.

²² Department of the Interior, Office of Surface Mining Reclamation and Enforcement, “Stream Buffer Zone and Related Rules,” 74 *Federal Register* 62664-62668, November 30, 2009.

proposed rule by early 2011. EPA and OSM also have pledged to strengthen oversight of state CWA and SMCRA permitting, regulation, and enforcement activities.

On July 15, the Corps published a two-part proposal concerning one aspect of the IAP, the use of Nationwide Permit 21 (discussed above) in connection with mountaintop mining activities.²³ First, the Corps proposed permanent modification of this NWP to prohibit its use in conjunction with surface coal mining activities in the Appalachian region. Second, because modification of the NWP is a long-term process, the Corps also proposed to temporarily suspend NWP 21 for surface coal mining activities in the Appalachian region in order to quickly halt the use of NWP 21 in the region. Surface coal mining activities in other regions would not be affected. The proposed suspension and modification would mean that surface coal mining activities in Appalachia would need to be evaluated through the Corps' detailed individual permit review process, rather than under a streamlined nationwide permit. The Corps explained its reason in the proposal:

[T]he Corps now believes that impacts of these activities on jurisdictional waters of the United States, particularly cumulative impacts, would be more appropriately evaluated through the individual permit process, which entails increased public and agency involvement, including an opportunity for public comment on individual projects.²⁴

If the proposal is finalized, current activities authorized under NWP 21 could be grandfathered. The public comment period on the proposal closed on September 14, 2009.

Guidance on Permitting

EPA and the Corps were expected to jointly issue guidance by the end of 2009 to strengthen future environmental review of mountaintop mining permits and operations. The agencies missed that self-imposed deadline, as EPA had been focusing on the reviews of pending permit applications. Mining industry representatives have vigorously criticized EPA's actions and questioned what criteria are being used for permit reviews, saying that the agencies are needlessly delaying important projects, thus negatively affecting both jobs and the nation's energy security. The mining industry, environmental advocates, and elected officials in the affected region all had been asking for greater clarity.

On April 1, EPA released a 31-page guidance memorandum that seeks to clarify the agency's tightened requirements for surface coal mining in Appalachia. The guidance will be applied as a framework for EPA's approval of all pending and future reviews for permits to dispose of coal mining waste. According to EPA, the guidance is not intended to bring a complete halt to mountaintop removal mining, but it should force the industry to adopt a practice of minimal or zero filling of valleys with mining debris.

Among other items, the guidance sets strict numeric limits on conductivity levels in waters affected by mining activities and valley fills. Conductivity is a measure of the level of salinity in water, which is expressed as microSiemens per centimeter, or $\mu\text{S}/\text{cm}$. In the guidance (and in its ongoing review of pending Section 404 permit applications), EPA refers to increasing scientific

²³ Department of Defense, Department of the Army, Corps of Engineers, "Proposed Suspension and Modification of Nationwide Permit 21," 74 *Federal Register* 34311-34316, July 15, 2009.

²⁴ *Id.* at 34313.

recognition of a strong relationship between elevated conductivity levels in Appalachian streams and impacts to aquatic life in streams below surface coal mining operations. Based on its review of recent scientific literature, EPA has concluded that, as a general matter, where conductivity levels will exceed 500 $\mu\text{S}/\text{cm}$, there is a reasonable potential that aquatic biota will be adversely affected and applicable water quality standards will be violated, thus establishing this as a likely upper limit to be allowed in permits. Environmental groups support EPA's use of conductivity to assess water quality impacts of coal mining, but industry groups have been highly critical, asserting that the science linking conductivity to water quality impairment is uncertain and that acceptable numeric levels are arbitrary. While the April 1 guidance is effective immediately, EPA also is seeking public comment and could make changes in the future.²⁵ Conductivity, and its use in assessing coal mining impacts on water quality, are likely to be a focus of debate and public comment.

The EPA guidance also references two draft reports produced by EPA's Office of Research and Development that were used, together with existing peer-reviewed science, in preparing the guidance. The first draft report, *The Effects of Mountaintop Mines and Valley Fills on Aquatic Ecosystems of the Central Appalachian Coalfields*, assesses the state of the science on the environmental impacts of mountaintop mines and valley fills on streams in Central Appalachia. The second, *A Field-based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams*, develops a conductivity benchmark value that is intended to protect the biological integrity of aquatic life in waters in the region. EPA is seeking public comment on the two draft reports and also has asked a panel of its Science Advisory Board to review the documents.²⁶

EPA Proposed Veto of a Mountaintop Mining Permit

In addition to directing EPA to issue the environmental guidelines used by the Corps to evaluate permit applications, CWA Section 404 also authorizes EPA to prohibit or otherwise restrict the specification by the Corps of a site for the discharge of dredged or fill material, if the agency determines that the activity will have an unacceptable adverse effect on water supplies, fish, wildlife, or recreational areas. EPA has used this veto authority, under Section 404(c), only 12 times since 1972, but recently proposed to veto a permit for a mountaintop mining operation in West Virginia. According to EPA, the Spruce No. 1 mine, as proposed, would be one of the largest surface mining operations ever authorized in Appalachia and would bury over seven miles of streams, directly impact 2,278 acres of forestland, and degrade water quality in streams adjacent to the mine. The Corps issued a permit for the project in 2007, but it was subsequently delayed by litigation and has been operating on a limited scale since then. EPA acknowledges that the project has been modified in order to reduce impacts, but the proposed veto is based on the agency's conclusion that the project could result in unacceptable adverse impacts to wildlife and fishery resources.²⁷ If the veto is finalized, it would be the first time that EPA has done so for a permit

²⁵ For the notice and links to the guidance, see U.S. Environmental Protection Agency, "Guidance on Improving EPA Review of Appalachian Surface Coal Mining Operations under the Clean Water Act, National Environmental Policy Act, and the Environmental Justice Executive Order," 75 *Federal Register* 18500-18501, April 12, 2010.

²⁶ For the notice of public comment period and links to the draft reports, see U.S. Environmental Protection Agency, "The Effects of Mountaintop Mines and Valley Fills on Aquatic Ecosystems of the Central Appalachian Coalfields and a Field-Based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams," 75 *Federal Register* 18499-18500, April 12, 2010.

²⁷ U.S. Environmental Protection Agency, "Proposed Determination to Prohibit, Restrict, or Deny the Specification, or the Use for Specification (including Withdrawal of Specification), of an Area as a Disposal Site; Spruce No. 1 Surface Mine, Logan County, West Virginia," 75 *Federal Register* 16788-16804, April 2, 2010.

already issued, rather than for a proposed permit issuance. None of the previous vetoes involved a surface coal mining or mountaintop mining project.

Congressional Actions

Some congressional interest in these issues also has been evident. In June 2002, following issuance of the revised regulatory definition of “fill material,” the Senate Environment and Public Works Committee held an oversight hearing to examine the rule, receiving testimony from Administration, mining industry, and public witnesses.

In the 111th Congress (as in several prior Congresses), legislation to reverse the 2002 revised regulations that define “fill material” has been introduced (H.R. 1310, the Clean Water Protection Act). This bill would sharply restrict mountaintop mining by excluding from the definition of “fill material” any pollutant that is discharged into water primarily for the purpose of disposing of waste. This provision would allow pollutant discharges that replace portions of the waters of the United States with dry land or which change the bottom elevation of a water body for any purpose to be considered fill material. But it would reject the view reflected in the 2002 regulations that some discharges for purposes of waste disposal (including mine overburden) should be allowable within the definition of fill.

A somewhat narrower legislative approach is contained in another bill in the 111th Congress, the Appalachia Restoration Act (S. 696). It is similar to H.R. 1310 in that it would define fill material to include pollutant discharges that replace portions of the waters of the United States with dry land or which change the bottom elevation of a water body for any purpose. But it would exclude the disposal of excess spoil material from coal surface mining and reclamation activities, as described in section 515(b)(22) of SMCRA, in waters of the United States. This provision appears to allow discharges from some mining practices to be considered fill material, such as hardrock mining or mining of other minerals such as sand and gravel (thus qualifying for a Section 404 permit), while excluding discharges from surface coal mining activities from the definition of fill material.

On June 25, 2009, the Senate Environment and Public Works Subcommittee on Water and Wildlife held a hearing on the impacts of mountaintop removal coal mining on water quality in Appalachia. Public witnesses, including an environmental scientist from the University of Maryland’s Center for Environmental Science, described the impacts of mountaintop removal with valley fills as immense and irreversible. An EPA witness said that the agency must reinvigorate its oversight of state-delegated CWA programs, such as the Section 402 permit program, to address water quality issues before Section 404 decisions are made. A witness from the West Virginia Department of Environmental Protection said that many in that state are concerned that ongoing administrative and possible legislative actions could limit economic development opportunities for all types of mining, not just mountaintop mining.

The significance of both bills is that discharges of materials that are not eligible for a Section 404 permit are regulated under CWA Section 402. Because Section 402 discharge requirements are more restrictive than those for Section 404, some discharges that could be permitted under Section 404 cannot be authorized under Section 402. Supporters of the bills favor making it more difficult to use Section 404 to authorize activities that they consider to be environmentally harmful. On the other hand, critics say that, as a practical matter, economically important activities such as coal mining could not meet the more stringent limitations of a Section 402 permit and, thus, would be infeasible.

The Obama Administration's views on the pending legislation are unknown for now.

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