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October 26, 2015

Via mail, email, and the Federal eRulemaking Portal

Re: Proposed Stream Protection Rule, 80 Fed. Reg. 44,436 (Dkt. No. OSM-2010-0018)
Draft Environmental Impact Statement (Dkt. No. OSM-2010-0021)
Draft Regulatory Impact Analysis (Dkt. No. OSM-2015-0002)

Dear Director Pizarchik:

The above-listed groups submit these comments on the Office of Surface Mining Reclamation and Enforcement's (OSMRE's) proposed "Stream Protection Rule," 80 Fed. Reg. 44,436 (July 27, 2015), as well as the accompanying Draft Environmental Impact Statement (DEIS) and Draft Regulatory Impact Analysis. The proposed rule extensively revises the national minimum standards for coal mining operations under the Surface Mining Control and Reclamation Act (SMCRA).

The practice of large-scale surface coal mining in Central Appalachia, known as mountaintop removal mining, is a national disgrace. This extremely destructive form of coal

mining devastates both the thriving natural ecosystems of the Appalachian Mountains as well as entire communities of residents who have lived on their homesteads for generations. Mountaintop removal mining generates some of the most damaging, large-scale environmental impacts of any industrial activity in the country. It is responsible for the destruction of over 500 mountains and approximately 2000 miles of stream channels across Central Appalachia.

The above-listed groups thank OSMRE for recognizing that the current approach to regulating surface coal mining is inadequate and is allowing massive environmental devastation in Appalachia and other areas of the country. We support several components of the proposed Stream Protection Rule, including improvements in baseline data collection, monitoring, and bonding requirements. But OSMRE must go further to protect Central Appalachia's people and environmental resources. OSMRE should adopt a stronger alternative that preserves and strengthens existing provisions that protect stream channels from direct damage. OSMRE's reasons in the proposal for not preserving and strengthening stream-channel protections are seriously flawed.

If OSMRE declines to preserve and strengthen stream-channel protections, it must, at a minimum, strengthen the proposal with regard to protection of downstream water quality. Current regulations prohibit violations of water quality standards established under the Clean Water Act (CWA). OSMRE must clarify that the new regulations contain the same requirement to protect water quality standards and must ensure citizen enforcement of that requirement. If it does not, the net effect of the "Stream Protection Rule" could be to weaken the protection of streams.

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I. WE STRONGLY SUPPORT SEVERAL IMPORTANT ASPECTS OF THE PROPOSED RULE, BUT ADDITIONAL IMPROVEMENTS ARE NEEDED.

As several commenters explained in December 30, 2009 comments on OSMRE's advance notice of proposed rulemaking, OSMRE has broad rulemaking authority to protect the environment from mining impacts. Docket No. OSM-2009-0009-2720. The specific performance standards in SMCRA authorize more restrictive rules than the existing ones. The existing rules are not preventing serious, persistent, and unmitigated environmental harm from occurring. We therefore agree with OSMRE that it needs to improve many aspects of its mining regulations, not just the buffer zone rule. We also agree that the proposed rule should define material damage to the hydrologic balance, require collection of better chemical and biological monitoring data both before and during mining, ensure protection and restoration of streams and related resources, and establish enforceable numerical standards. 80 Fed. Reg. at 44,443, 44,479. We highlight below the most important changes in the rule that we support.

A. Sections 780.19, 780.23—Flow and Chemical Monitoring of Streams

We support OSMRE's proposal in section 780.19 and 780.23 to require more extensive monitoring of stream flow and chemical parameters, including total dissolved solids, major anions and cations, selenium, aluminum, and conductivity. This information is essential to establish baseline conditions and monitor adverse impacts after mining begins.

However, we disagree with OSMRE's proposal in section 780.23(b)(2)(iii) to not require monitoring of point-source discharges for the same listed parameters that must be monitored in streams. 80 Fed. Reg. at 44,506. Monitoring at both point-source and in-stream locations is necessary to determine the connection between mining discharges and downstream conditions. This connection is necessary to establish a mine operator's liability for causing or contributing to violations of water quality standards. *See OVEC v. Elk Run Coal Co.*, 24 F. Supp. 3d 532 (S.D.W.Va. 2014); *OVEC v. Fola Coal Co.*, 82 F. Supp. 3d 673 (S.D.W.Va. 2015). At a minimum, mining point sources should be monitored for selenium, pH, iron, aluminum, manganese, conductivity, and the four anions/cations that are characteristic of discharges from valley fills in Appalachia (calcium, bicarbonate, sulfate, and magnesium).¹ These are typically the most harmful components of mine discharges and cause most of the mining-related impairments on state § 303(d) stream impairment lists. For example, West Virginia's 2012 Final Integrated Water Quality Monitoring and Assessment Report found that the most common impairments associated with mine drainage are low pH, high concentrations of iron, aluminum, selenium, and manganese, and biological impairment as measured by low West Virginia Stream Condition Index scores (which are related to elevated ionic chemicals and high conductivity).

Recommended Change to § 780.23(b)(2)(ii): For all monitoring locations including point source discharges, the plan must require that the following parameters be measured at each location at least every three months, with data submitted to the regulatory authority at the same frequency: . . .

¹ See EPA, *A Field-Based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams* p. 26 (2011), <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=233809>.

B. Section 780.19—Biological Monitoring of Streams

We support OSMRE’s proposal in section 780.19(e) to require biological monitoring of benthic macroinvertebrates to the genus level. “Compared with family-level taxonomic data, genus-level assessments more accurately represent the composition and diversity of the aquatic community in WV’s flowing streams.”² We also support OSMRE’s proposal in that section to require annual use of a multimetric bioassessment protocol and stream condition index score to determine whether mines are causing harm to stream uses. EPA has used that same method to determine stream impairments on West Virginia’s § 303(d) lists, and has found that a West Virginia Stream Condition Index (WVSCI) score below 68 indicates impairment. A federal court has also ruled that such a score is evidence of stream impairment and a violation of biological narrative water quality standards. *OVEC v. Elk Run Coal Co.*, 24 F. Supp. 3d 556; *OVEC v. Fola Coal Co.*, 82 F. Supp. 3d 673, 679.

C. Section 780.21—Content Requirements for CHIAs

We support OSMRE’s proposal in section 780.21 to require cumulative hydrologic impact assessments (CHIAs) to contain enforceable, site-specific, numerical, material damage criteria for each parameter of concern. Congress recognized when it passed the Clean Water Act in 1972 that objective, numerical limits on discharges are essential for effective monitoring and citizen enforcement. S. Rep. No. 414, 1972 U.S. Code Cong. & Ad. News at 3745 (“an objective evidentiary standard will have to be met by any citizen who brings an action under this section”). Objective criteria are equally essential for effective SMCRA enforcement.

OSMRE correctly recognizes that “SMCRA material damage criteria must be no less stringent than Clean Water Act water quality standards and criteria in all cases.” 80 Fed. Reg. at 44,475 (emphasis omitted). A court decision supports the conclusion that the material damage criteria must specifically include the State’s water quality standards. *See Ex. B, Ohio River Valley Environmental Coalition, Inc. v. Castle*, No. 3:00-CV-58 (S.D.W.Va. June 15, 2000) (*Memorandum Opinion and Order* at 13) (“Given the use of the term ‘material damage’ and its context in the statute, Congress intended that [the West Virginia state regulatory authority under SMCRA] set out in writing the current condition of the water’s quality and the limits and ranges above which damage will be considered material. Those limits must include the State’s water quality standards applicable to the hydrologic resources found within the cumulative impact area.”).

OSM also correctly recognizes that under the current CHIA regulations, “[t]he lack of standards or content requirements for the CHIA, coupled with the lack of a definition of material damage to the hydrologic balance, is an impediment to stream protection under SMCRA because there are no objective criteria to apply.” 80 Fed. Reg. at 44,501. All too many “material damage findings” in CHIAs ultimately have proven incorrect because the operations those findings

² Ex. A, Gregory J. Pond et al., *Calibration and validation of a regionally and seasonally stratified macroinvertebrate index for West Virginia wadeable streams*, Env’t. Monit. Assess. 185:1515-40, 1533 (2013).

endorsed actually did cause or contribute to damaging excursions from water quality standards once mining actually began. OSM's proposed requirement that each CHIA's "no material damage" finding be supported by a written determination that the hydrologic impact of each proposed mine "will not . . . [r]esult in an exceedance of applicable water quality standards in any stream located outside the permit area" (proposed 30 C.F.R. § 780.21/784.21(b)(8)(i)(B)) is a very significant, positive step toward correcting the problems that have developed under the current CHIA regulations.

While we support the preamble's discussion of the need to include water quality standards or more stringent alternative standards as site-specific material damage criteria for each mine, the proposed regulation itself lacks language requiring that result. The texts of proposed 30 C.F.R. §§ 780.21/784.21 do not expressly require each regulatory authority to include each applicable water quality standard or more stringent alternate criteria among the material damage criteria used to evaluate the design of each proposed mine. *Compare* 80 Fed. Reg. 44,475 ("SMCRA material damage criteria must be no less stringent than Clean Water Act water quality standards and criteria in all cases, but, in some situations, they may need to be more stringent") *with* 80 Fed. Reg. 44,604 (text of proposed 30 C.F.R. § 780.21(b)(6), which does not mention applicable water quality standards). We request that OSM revise the regulatory text to correct this flaw and thereby ensure that each federal regulatory program and approved state regulatory program fully reflects OSM's stated commitment to the use of either applicable water quality standards or more stringent alternative standards as material damage criteria in the CHIA process. As experience with OSM's 1983 rulemaking shows, failure to require in the text of the agency's CHIA regulations that each regulatory authority include applicable water quality standards among the material damage criteria for each proposed mine can and will result in the regulatory authorities' failure to ensure that each proposed mine is in fact designed to prevent excursion from water quality standards once mining begins.

We further note that the current proposal differs from the position that OSM announced in the 2008 rulemaking that approved West Virginia's current definition of "material damage to the hydrologic balance outside the permit area." In that instance, OSM interpreted SMCRA to allow state regulators to perform CHIAs without using effluent limits, water quality standards, or any other numeric criteria to define material damage. *See, e.g.,* 73 Fed. Reg. 78,970, 78,974 (Dec. 24, 2008) (stating that while OSM's 1983 regulatory preamble "agrees that the regulatory authorities **should** establish criteria to measure material damage for the purposes of CHIAs," (1) "the [existing] CHIA regulation does not mandate that the States do so" and (2) "OSM has not put States on notice, under 30 C.F.R. Part 732, . . . that 30 C.F.R. 816.42 or 817.42 must be used for such criteria"). OSM expressly disagreed that effluent limitations and water quality standards formulated under the Clean Water Act constitute predetermined material damage criteria for use in the CHIA process. 73 Fed. Reg. 78,977. Instead, OSM insisted that "States have considerable discretion in establishing their CHIA process and establishing criteria for making the required material damage finding, including the extent to which they utilize CWA standards or criteria in doing so," *id.*, and therefore "water quality standards and coal mining effluent limits do not constitute predetermined material damage criteria unless the State, at its discretion, decides to apply them that way," *id.* at 78,978.

We understand the proposed CHIA regulations to reverse the policies that OSM announced in approving West Virginia's current definition of "material damage to the hydrologic balance outside the permit area." Accordingly, we ask that in finalizing its proposal, OSM acknowledge its contrary interpretation of SMCRA in past rulemaking and fully explain its rationale for the policy change. As the Supreme Court of the United States has made clear, while "[a]n agency's view of what is in the public interest may change, either with or without a change in circumstances," *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 57 (1983), "the agency must explain the evidence which is available, and must offer a 'rational connection between the facts found and the choice made.'" *Id.* at 52 (quoting *Burlington Truck Lines, Inc. v. United States*, 371 U.S. 156, 168 (1962)).

To satisfy the requirements of *State Farm* and to forestall any mistake or confusion concerning the mandatory use of either applicable water quality standards or more stringent alternative standards as material damage criteria, OSM should expressly state in the preamble to the final regulation that the agency abandons the contrary interpretation on which it based the 2008 approval of West Virginia's current material damage definition. We further urge OSM to explain that the failure of state regulators in West Virginia and other States to analyze whether each proposed surface coal mining operation has been designed to prevent excursion from applicable water quality standards has resulted in the issuance of mining permits to numerous operations that subsequently caused or contributed to damaging excursions from water quality standards.

Recommended change to 780.21(b)(6) and 784.21(b)(6): Insert a new 780/784.21(b)(6)(v) that provides: (v) Include each applicable federal or state surface water or groundwater quality standard or, for one or more pollutants, any more stringent numeric water quality standard that the regulatory authority determines to be necessary to protect designated, existing, or reasonably foreseeable uses of potentially affected water resources.

D. Sections 773.15(e)(2), 784.19, 800.42(d), 817.121, 817.41, 817.42—Prevention of Stream Dewatering and Groundwater Pollution Caused by Underground Mining Operations

We support OSMRE's statement relating to section 784.19 that the regulatory authority "may not approve any proposed operation that is predicted to cause subsidence that would result in the dewatering of perennial or intermittent streams." 80 Fed. Reg. at 44,525/3. As OSMRE recognizes, "[s]ubsidence resulting from longwall mining can cause a loss of part or all of the streamflow." *Id.*/2. The DEIS cites documented cases of stream dewatering in Pennsylvania, Utah and West Virginia that have persisted for years. DEIS at 4-52, 4-54 (July 2015). We agree that SMCRA "does not justify allowing underground mining operations or subsidence resulting from underground mining operations to dewater or degrade a stream to the extent of precluding an existing, reasonably foreseeable, or designated use of that stream." 80 Fed. Reg. at 44,476.

On this issue the proposed rule is in line with an important Pennsylvania court decision that upheld the prohibition of longwall mining beneath a stream after earlier longwall operations in the same mine dewatered two neighboring streams. See *Umco Energy, Inc. v. Dept. of Environmental Protection*, 938 A.2d 530 (Pa. Comm. Ct. 2007). We urge OSM to approve the reasoning of the *Umco* decision as a correct implementation of state laws that effectuate

SMCRA's provisions for protection of water resources from the adverse effects of underground mining operations.

We also support OSM's proposed expansion of the definition of the term "adjacent area" to include the area within which "there is a reasonable possibility of adverse impacts from surface coal mining operations or underground mining activities" rather than, as under the existing definition, the areas "where adverse impacts could reasonably be expected to occur". 80 Fed. Reg. 44,467. Instead of requiring pre-mining information only for areas where adverse impacts of coal mine subsidence are almost certain to occur, the proposed rule would require information for land areas and buildings wherever adverse impacts are reasonably **possible**. This is an important improvement that promises to help SMCRA regulators and the owners of damaged land or buildings establish whether coal mine subsidence has caused the damage.

SMCRA expressly mandates that OSM regulate the effects of surface coal mining operations on groundwater. 30 U.S.C. §§ 1257(b)(11) (requiring that the determination of probable hydrologic consequences in each permit application address "the quantity and quality of water in surface and ground water systems"); 1258(a)(13) (requiring that the reclamation plan included in each permit application describe in detail the measures to be taken during mining and reclamation to assure the protection of the quality and quantity of surface and ground water systems, both on- and off-site"); 1265(b)(10) and 1266 (b)(9) (requiring SMCRA permittees to "minimize the disturbances to the prevailing hydrologic balance at the mine-site and in associated offsite areas and to the quality and quantity of water in surface and ground water systems both during and after surface coal mining operations and during reclamation"); 1266(b)(4) (requiring SMCRA permittees to assure that surface disposal of mine wastes, etc., "assure that the leachate will not degrade below water quality standards established pursuant to applicable Federal and State law surface or ground waters"); and 1267(b)(2)(B) (requiring each SMCRA regulatory authority to require monitoring of groundwater in certain circumstances).

In our view OSM's mandate to regulate groundwater is sufficient to support development of federal groundwater quality standards applicable to surface coal mining and reclamation operations nationwide. In this rulemaking, however, we urge that OSM instead incorporate as minimum material damage criteria for groundwater each State's applicable groundwater quality standards, in States where such standards exist. If OSM does so, both the duty of the regulatory authority to apply state groundwater quality standards as material damage criteria in the CHIA process and the duty of permittees to avoid causing or contributing to excursion from state groundwater standards would arise under both federal and state law.

As with water quality standards formulated for surface water resources under the Clean Water Act, Congress most certainly intended that each SMCRA regulatory authority will withhold approval of the permit application for any proposed mine that will predictably cause or contribute to excursion from any applicable State groundwater quality standard. Moreover, in those States that have formulated groundwater quality standards to protect existing, reasonably foreseeable, or designated uses of groundwater, Congress certainly intended that SMCRA regulators respect and protect those uses no less effectively than they protect existing, reasonably foreseeable, or designated uses specified pursuant to the Clean Water Act. *See* 30 U.S.C. § 1255(b) (preserving the effect of any state law "which provides for more stringent land use and environmental controls . . . than do the provisions of this Act). Thus, where a State has adopted

groundwater quality standards, it would be arbitrary, capricious, and otherwise inconsistent with law for OSM to allow the regulatory authority to substitute the “best professional judgment” of its employees on that subject. Only where there are no applicable statutory or regulatory groundwater quality standards should OSM authorize SMCRA regulatory authorities to formulate material damage criteria for groundwater based on their “best professional judgment.”

The prohibition of stream dewatering should be included in the text of the rule itself. OSM should specifically state in section 773.15(e)(2) of the final rule that a regulatory authority cannot approve a permit application unless it determines that the proposed operation is not predicted to cause subsidence that would result in the dewatering of any perennial or intermittent stream. OSM should further clarify that, in making this determination, the regulatory authority must consider whether previous similar operations have resulted in dewatering and, if they have, must provide a scientific basis for concluding that the new operation will not result in dewatering. Similarly, the requirement to include applicable state groundwater quality standards among the material damage criteria for each proposed coal mine should be included in the text of the rule.

In addition, if subsidence occurs within the permit and adjacent areas, the proposed rule does not require sufficient corrective actions. Section 817.34 only requires permittees to “minimize disturbance” to those areas (which could allow dewatering), to “protect streams” in accordance with sections 784.28 and 817.57 (neither of which require actions to restore stream flow or protect the biological integrity of the dewatered stream), and to comply with the hydrologic reclamation plan in section 784.22 (which does not require any specific corrective action for dewatering). Furthermore, the performance standards related to subsidence in section 817.121 only requires repairs to land, man-made structures, and water supplies, not restoration of the dewatered stream. OSMRE should strengthen section 817.121 to provide that, wherever possible, permittees must restore a dewatered stream in compliance with section 817.52(b)(2), which requires restoration of both stream form and biological function, and the regulatory authority must increase the bond pursuant to section 817.121(g) to cover the cost of the restoration. In addition, OSMRE should state that Phase III bond release under section 800.42(d) cannot occur until the ecological function of a dewatered stream is restored under section 817.57.

Finally, in the past, OSMRE has allowed permittees to delay restoration of dewatered streams for years in the hope that the condition is temporary and will naturally reverse itself with or without human assistance. OSMRE should strengthen section 817.121 to put a maximum time limit on restoring a dewatered stream to its pre-mining condition.

Recommended change to definition of “material damage to the hydrologic balance outside the permit area” in § 701.5: Add a new subparagraph (c) that provides: (c) Exceed applicable State or Federal water quality standards or criteria, including applicable State groundwater quality standards.

Recommended change to § 773.15(e)(2): Determine that the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area, and that that proposed operation is not predicted to cause subsidence that would result in the dewatering of any perennial or intermittent stream;

Recommended change to 780.21(b)(8)(i)(B) and 784.21(b)(8)(i)(B): Result in an exceedance of applicable state or federal water quality standards in any stream or groundwater located outside the permit area.

Recommended change to § 817.121(c): *Repair of damage to surface lands and waters.* To the extent technologically and economically feasible, you must correct any material damage resulting from subsidence caused (i) to surface lands by restoring the land to a condition capable of maintaining the value and reasonably foreseeable uses that it was capable of supporting before subsidence damage occurred and (ii) to surface waters by restoring the waters to the condition required by § 817.52(b)(2). If a permittee has attempted but failed to repair surface lands or waters for a period to two years without achieving complete success, the regulatory authority shall deem repair of the damage to be technologically and economically infeasible and shall require the permittee to perform appropriate mitigation work.

Recommended change to § 817.121(g): *Adjustment of bond amount for subsidence damage.*

(1) When subsidence-related material damage to land, structures, facilities, or surface waters protected under paragraphs (c) through (e) of this section occurs, or when contamination, diminution, or interruption to a water supply protected under § 817.40 of this part occurs, the regulatory authority must require the permittee to post additional performance bond until the repair, compensation, replacement, or restoration is completed.

(2) The amount of additional bond required under paragraph (g)(1) of this section must equal the— * * *

(iv) Estimated cost to restore the waters to the condition required by § 817.52(b)(2).

E. Section 816.57(b)(2)—Restoration of Stream Functions

We support OSMRE's proposal in section 816.57(b)(2) to require permittees to restore both the hydrological form and ecological function of disturbed stream segments. This would be consistent with the § 404(b)(1) Guidelines under the CWA, which also require consideration of both structure and function. 40 C.F.R. § 230.11(e). More specifically, we support the proposal in section 816.57(b)(2)(ii)(B) and (C) that would require the restored stream to have a biological condition that is adequate to support the uses that existed prior to mining, as measured by a multimetric bioassessment protocol and a stream condition index score sufficient to fully support existing and designated uses. The bioassessment protocol should use a genus-level assessment of aquatic taxa, like the Genus Level Index of Most Probable Stream Status (GLIMPSS) instead of a family-level assessment like the West Virginia Stream Condition Index (WVSCI), because a genus-level assessment can better track environmental stress and do so in different seasons and bioregions. A family-level assessment is less accurate and less sensitive because a family of taxa could be present due to the persistence of an individual belonging to only one of its many genera that are common in the region impacted by mining. *See Pond et al. (2013).*

For example, in West Virginia's mountainous regions, this would mean that if the pre-mining stream had a WVSCI score of 68 or above and a GLIMPSS score of 53 or above, then the post-mining stream must be at or above those same thresholds, which are the minimum scores a stream must achieve to support a non-impaired macroinvertebrate assemblage under the WVSCI and GLIMPSS protocols. A similar approach is already being used by EPA and the U.S. Army Corps of Engineers in some recent permits. The § 404 permit for the Loadout, LLC's Nellis

Surface Mine requires post-mining mitigation stream channels to meet a WVSCI score of 68. *See* Ex. C, Reevaluating Mitigation for Dave Fork and Wilderness Fork, and Response to Plaintiffs Comments, Especially Those Concerning Stream Creation at 22, *Ohio Valley Environmental Coalition v. U.S. Army Corps of Engineers* Civ. No. 3:08-00979, Doc. 290-1 (S.D. W.Va. 2013). Similarly, the October 29, 2012 WV/NPDES Permit No. WV1029690 for Consol of Kentucky's Buffalo Mountain Surface Mine contains a narrative permit condition providing that a WVSCI score of 68 is an "acceptable future biological condition" and that "[a] WVSCI score below 68 shall be a violation of this permit until such time as a biological score from the comparable season (spring/summer) at the same station reaches acceptable future biological condition." Ex. D, Permit, p. 174.

Despite our support for the principle that permittees must restore the form and function of streams, however, there is no scientific evidence that functional restoration is feasible as a practical matter for streams that are filled or mined-through, as explained in Part 2.C. below.

F. Changes to Part 800—Improved Bonding Provisions

OSMRE proposes several important improvements to the bonding provisions in 30 C.F.R. Part 800. We support OSMRE's proposal to require financial assurances for treatment of long-term pollution discharges in § 800.18 . 80 Fed. Reg. at 44,532. OSMRE makes clear that these financial assurances should not be any form of bond, but should consist of trust funds or annuities held by the regulator or accessible to the regulator. *Id.* at 44,533.

We also support OSMRE's proposal to make the following changes to bonding provisions:

- 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.

II. OSMRE SHOULD RETAIN THE 1983 RULE PROVISION THAT CREATES A PROTECTIVE STREAM BUFFER ZONE AND ENFORCE THE SMCRA PROVISION THAT PROHIBITS DAMAGE TO NATURAL WATERCOURSES.

OSMRE proposes to eliminate or weaken two provisions that protect stream channels from direct damage. The first is a provision of the current regulations (adopted in 1983) that prohibits mining disturbances within a buffer zone that extends 100 feet on either side of any intermittent or perennial stream, if the disturbance will adversely affect the environmental resources of the stream. 30 C.F.R. § 816.57(a)(1) (1983). OSMRE's proposal would allow mining disturbances within the buffer zone regardless of the extent of direct damage to the stream's environmental resources. *See* proposed 30 C.F.R. § 816.57 & 816.71. Streams that are mined through must be "restored" under the proposal, but streams buried under valley fills need not be, regardless of how many miles of streams are buried. *Id.*

The second stream-channel protection provision at issue is a statutory requirement that prohibits damage to "natural watercourses"—i.e., streams—by operations that receive a variance from the "approximate original contour" (AOC) requirement. 30 U.S.C. § 1265(c)(4)(D). Noting that the statutory term "no damage" is not further defined, DEIS at ES-14 & 2-9, OSMRE proposes to determine that the requirement of no damage to natural watercourses is satisfied if the proposed operation will not increase the water pollution leaving the permit area, worsen flooding outside the permit area, or harm water quantity outside the permit area in comparison to the same operation without the variance. 80 Fed. Reg. at 44,529/3. Thus, under the proposal, operations with AOC variances are permitted to bury and directly damage unlimited miles of natural watercourses so long as the damage to the watercourse does not alter downstream hydrology in these specified ways. In addition, operations with AOC variances are permitted to increase pollution, worsen flooding, and disrupt water quantity, so long as the damage is not worse than would result without the variance.

In the final rule, OSMRE must change course and restore these regulatory and statutory stream-channel protections. OSMRE should also make clear that both requirements are performance standards directly enforceable by citizens.

A. Coal Mining Causes Serious and Extensive Direct Damage to Streams.

Coal mining operations cause serious and extensive direct damage to ecologically vital streams. Federal agencies have given varying estimates of the number of miles of streams buried by valley fills, but all of the estimates are more than 1000 miles. In 2005, EPA, the Corps and OSMRE estimated that 724 miles of streams were buried between 1985 and 2001. Ex. E, U.S. EPA, *2005 Final Programmatic Environmental Impact Statement on Mountaintop Mining/Valley Fills in Appalachia* (PEIS) at 4. In 2008, OSMRE estimated that 535 additional miles of streams were buried between 2001 and 2005. Ex. F, OSMRE, *Final Environmental Impact Statement (EIS), Excess Spoil Minimization, Stream Buffer Zones* (2008) at IV-145. In the 2015 DEIS for this rule, OSMRE estimates that 764.3 miles of streams were buried between 1984 and 2012, and an additional 279.5 miles of streams upstream from the valley fills were indirectly impacted by losing their ecological functions. DEIS at 4-51. In 2010, EPA estimated that surface coal mining operations have destroyed approximately 2000 miles of Central Appalachian streams by burying or mining through them. Ex. G, Press Release, EPA, *EPA Makes Announcement on Two*

Proposed West Virginia Mountaintop Coal Mines (Jan. 5, 2010), <http://yosemite.epa.gov/opa/admpress.nsf/0/84636183A97CED24852576A20069961A>.³

Each valley fill buries the streams below it, permanently destroying their chemical, physical, and biological integrity. 2015 DEIS at 4-91 (“the streams are eliminated along with the biota that once inhabited them (U.S. EPA et al., 2003; Pond et al., 2008; Palmer et al., 2010).”). “The uncontested evidence demonstrates that the burial of substantial portions of intermittent or perennial [streams] causes adverse environmental effects to the filled stream segments, as such fills eliminate all aquatic life that inhabited those segments.” Ex. G, Brief for the Federal Appellants at 25, *Bragg v. W. Va. Coal Ass’n*, 248 F.3d 275, No. 99-2683 (4th Cir. 2001). As explained by Judge Charles Haden II in granting an injunction against the Spruce No. 1 Mine in 1999:

When valley fills are permitted in intermittent and perennial streams, they destroy those stream segments. The normal flow and gradient of the stream is now buried under millions of cubic yards of excess spoil waste material, an extremely adverse effect. If there are fish, they cannot migrate. If there is any life form that cannot acclimate to life deep in a rubble pile, it is eliminated. No effect on related environmental values is more adverse than obliteration. Under a valley fill, the water quality of the stream becomes zero. Because there is no stream, there is no water quality.⁴

The effects of mining through a stream are equally devastating. Obliterating streams “adversely impact[s] wildlife . . . that depend on headwater streams for all or part of their life cycles,” Ex. I, EPA, Spruce No. 1 Mine Final Determination 47 (2011). “[W]hen streams are mined through, a majority of the biota is lost (OSMRE, 2008; Pond et al., 2008).” 2015 DEIS at 4-91.

Because of this harm from direct burial of streams, the U.S. Army Corps of Engineers (ACE) decided in 2012 to prohibit the use of Nationwide Permit 21 for the construction of valley fills, and to impose a 300-foot per-project limit on stream disturbance associated with surface coal mining operations. Final Notice, 77 Fed. Reg. 10,184, 10,204, 10,274 (Feb. 21, 2012). The Corps found that those limits were “necessary to constrain the adverse effects to the aquatic environment.” *Id.* at 10,204. “The 300 linear foot limit for losses of stream bed is generally necessary to ensure that [nationwide permit] 21 authorizes only those activities that result in minimal adverse effects on the aquatic environment.” *Id.* at 10,211.

³ OSM has apparently created new estimates of total direct stream impacts under the Stream Protection Rule and its alternatives, including the no action alternative. The DEIS includes tables that detail several of the results of this analysis, including stream miles preserved and improved under each alternative. 2015 DEIS at 4-70 to 4-74. Yet the DEIS fails to disclose the estimates of total direct stream damage that presumably underlie this analysis. Both NEPA and basic transparency require OSM to disclose this information to the public through the environmental impact statement.

⁴ *Bragg v. Robertson*, 72 F. Supp. 2d 642, 661-62 (S.D. W.Va. 1999), *rev’d sub. nom. Bragg v. W. Va. Coal Ass’n*, 248 F.3d 275 (4th Cir. 2001) (vacating injunction issued against the state on 11th Amendment immunity grounds but affirming district court’s entry of consent decree).

In contrast, OSMRE's proposed rule imposes no limit whatsoever on the length of stream that can be buried or mined through. As we show below, that omission is directly inconsistent with the 1983 buffer zone rule and with 30 U.S.C. § 1265(c)(4)(D).

B. OSMRE Has Long Recognized the Importance of Protecting Stream Channels from Direct Disturbance.

The regulatory regime that OSMRE's proposed Stream Protection Rule will displace includes strong protection for stream channels. The current version of 30 C.F.R. § 816.57(a)(1) provides:

No land within 100 feet of a perennial stream or an intermittent stream shall be disturbed by surface mining activities, unless the regulatory authority specifically authorizes surface mining activities closer to, or through, such a stream. The regulatory authority may authorize such activities only upon finding that—

- (1) Surface mining activities will not cause or contribute to the violation of applicable State or Federal water quality standards, and will not adversely affect the water quantity and quality or other environmental resources of the stream;

As OSMRE has previously recognized, the current regulation, “[b]y its plain terms, . . . protects particular stream segments and does not allow mining activities, such as valley fills, in intermittent or perennial streams unless there is a finding that the activity will cause no adverse environmental effect in the affected stream segment.” Ex. H, Brief for the Federal Appellants at 41, *Bragg v. W. Va. Coal Ass’n*, 248 F.3d 275 (4th Cir. 2001).

OSMRE first adopted restrictions on mining within 100 feet of streams in 1977, stating that the regulation's main objective was to “protect[] stream channels.” 43 Fed. Reg. 41,662, 41,752/2 (Sept. 18, 1978). The Department explained that the regulation prohibited direct impacts to streams from mining activities, stating, “[i]t should be noted that under the [buffer regulation], an operator could not mine through a stream unless it had been diverted around the area of disturbance.” 43 Fed. Reg. 41,752/3. The Department stated that it expected to secure “a national beneficial impact on water resources by limiting coal mining to only operations which can be conducted in compliance with environmental protection standards[.]” Ex. J, OSMRE, Final Environmental Impact Statement (FEIS) at AIII-3 (1979).

OSMRE adopted the current stream buffer zone regulation in 1983, confirming that “buffer zones are used to protect streams . . . from gross disturbance of stream channels caused by surface coal mining and reclamation operations.” 48 Fed. Reg. 30,312, 30,312 (June 30, 1983); *see also id.* at 30,313 (“[T]he primary objective” of the 1983 buffer regulation is “to provide protection for the hydrologic balance and related environmental values of perennial and intermittent streams.”). OSMRE inserted the strong language restricting the discretion of the regulatory authority to authorize mining activity within the buffer at the specific request of a coalition of environmental groups. *See id.* at 30,315-16 (extensive discussion of waiver language, including reasons for rejecting weaker formulations); Ex. K, Supplement to Final Environmental Impact Statement (1983) Volume I at VI-42 (explaining that OSMRE was “includ[ing] additional restrictions on the stream buffer zone exemption” in response to

comments of National Wildlife Federation et al.); Ex. L, *Id.* Volume II at 372 (comments of National Wildlife Federation et al.). Reasoning that “[s]treams are ... often valuable fish and biological habitats,” OSMRE crafted the 1983 regulation to confer strong protection on what it viewed as the most ecologically valuable streams—perennial and intermittent streams. 48 Fed. Reg. at 30,312-313 (June 30, 1983).

In 2001, the United States submitted a brief to the Fourth Circuit confirming yet again that 30 C.F.R. § 816.57(a)(1) confers strong protection on stream channels. In that brief, which OSMRE joined, the United States confirmed that “valley fills that disturb intermittent or perennial streams may be approved only if there is a finding that activity will not adversely affect the environmental resources of the filled stream segment.” Ex. H, Brief for the Federal Appellants at 41, (emphasis omitted). The brief explained:

the burial of substantial portions of intermittent or perennial streams in valley fills causes adverse environmental impact in the filled stream segments and therefore cannot be authorized consistent with the buffer zone rule. The uncontested evidence demonstrates that the burial of substantial portions of intermittent or perennial [streams] causes adverse environmental effects to the filled stream segments, as such fills eliminate all aquatic life that inhabited those segments.

Id. at 25.

C. OSMRE’s Reliance on Stream Re-Creation and Restoration to Mitigate Stream Loss Has No Scientific Basis.

OSMRE claims that the Stream Protection Rule will reduce direct destruction of stream channels, despite the relaxation of existing stream-channel protections, based primarily on the requirement that operators restore stream channels that are mined through. 80 Fed. Reg. 44,436-01, 44,440.⁵ But this claim rests on the unsubstantiated assumption that permittees can restore the hydrological form and ecological function of mined-through stream segments using available and proven techniques of stream restoration and re-creation. 80 Fed. Reg. at 44,440. OSMRE cites studies from southern Illinois purporting to show that this is “technologically feasible and attainable.” *Id.* However, the Illinois studies involved “temporary diversion and eventually relocation (restoration) of perennial streams,” *not* attempted restoration of streams that have been completely destroyed by mining-through or valley fills.⁶ OSMRE cites no studies from

⁵ OSMRE also relies on a requirement to “minimize” direct harm to streams, but that requirement is so vague that it may be effectively unenforceable. In any event, minimizing direct harm to streams is already required by statute. 30 U.S.C. § 1265(b)(10); *id.* § 1265(b)(24).

⁶ Ex. M, Nawrot, J., W. G. O’Leary, and P. Malone. *Illinois Stream Restoration—Opportunities for Habitat Enhancement: Policy, Principles, and Practices*, in Proc. of the 2009 Geomorphic Reclamation and Nat. Stream Design at Coal Mines: A Technical Interactive Forum, 183-195 (April 28-30 2009), <http://www.osmre.gov/resources/library/proceedings/2009GeomorphicReclamationProceedings.pdf>. As the proposed rule acknowledges, the second cited study involved “stream segments [that] were relocated in the 1980s to facilitate mining and then were restored in their approximate premining location.” 80 Fed. Reg. at 44,440.

Appalachia on this issue, and the one study that is available is to the contrary. A recent peer-reviewed study synthesized information from 434 stream mitigation projects from 117 permits for surface mining in Appalachia. Ex. N, Palmer & Hondula, *Restoration as Mitigation: Analysis of Stream Mitigation for Coal Mining Impacts in Southern Appalachia*, Environ. Sci. Technol. 48: 10,552-60 (2014). That study analyzed both stream restoration and stream creation projects and concluded that “the data show that mitigation efforts being implemented in southern Appalachia for coal mining are not meeting the objectives of the Clean Water Act to replace lost or degraded streams ecosystems and their functions.” *Id.* at 10,552. In fact, “97% of the projects reported suboptimal or marginal habitat even after 5 years of monitoring.” *Id.*

EPA’s conclusions on this question are consistent with the findings of Palmer & Hondula and undercut OSMRE’s assumption that stream restoration and reconstruction will be successful:

Scientific research has demonstrated that replacement of streams is among the most difficult and frequently unsuccessful forms of mitigation. Even if stream structure and hydrology can be replaced, it is not clear that replacing structure and hydrology will result in true replacement of functions, especially the native aquatic community and headwater functions.

Ex. I, EPA, Spruce No. 1 Mine Final Determination (2011) (internal citation omitted).

OSMRE also assumes that constructing new stream channels is just as feasible as restoring existing stream channels. 80 Fed. Reg. at 44,440/2-3. OSMRE relies on a single vague sentence in a 2012 EPA report that “restoration of high-gradient, very small intermittent and ephemeral channels as part of stream mitigation projects is common in coalmining regions.” *Id.*, n. 18 (citing Harman et al., *A Function-Based Framework for Stream Assessment and Restoration Projects*, EPA, May 2012, at 230). That study provides no support or citation for that statement, nor was the study designed to examine the success or effectiveness of stream restoration. The 2014 Palmer study shows that while these attempts at stream restoration may be common, they are often unsuccessful. OSMRE then extrapolates from that one vague sentence about stream restoration and states that constructing new stream channels should be just as feasible, and cites Appendix B of that same study. 80 Fed. Reg. at 44,440, n. 19. However, Appendix B describes a completely hypothetical stream reconstruction scenario, with no reference to actual on-the-ground results. Ex. O, Harman at 336-40. Thus, the one and only study cited by OSMRE provides no factual or scientific basis to support OSMRE’s conclusion about the feasibility of new stream creation.

Mingo Logan’s Mountain Laurel Mining Complex in West Virginia is a recent example of the failure of stream creation. Mingo Logan was required to construct two temporary stream channels to offset stream losses from filling Seng Creek to build a coal preparation plant. Neither constructed channel will hold water, and Mingo Logan admitted in its 2014 annual monitoring report to the Corps that “[i]t is doubtful that the temporary mitigation in the clear water ditches as they currently exist will ever be able to meet the success criteria proposed in the approved Compensatory Mitigation Plan.” Ex. P, Mingo Logan Coal Co., Annual Update and Status Report, p. 3 (Nov. 2014).

The current state of the science on stream creation is summarized in the 2014 Palmer study cited above:

There have only been a few studies that include an assessment of the effectiveness of stream creation. One of these examined two projects in North Carolina (U.S.) and based success on whether or not projects met regulatory success criteria at the time of construction; both met regulatory requirements however authors were not able to evaluate ecological status with such a small sample size. Another study evaluated five creation projects on reclaimed mine land in [West Virginia] and concluded that using ecological standards, created streams on mine land do not mimic natural streams. A third study reported that created streams do not produce biological outcomes comparable to unimpacted reference streams. Similar conclusions of inadequacy have been reached for channels constructed in other geographical regions. Currently, there are no scientifically validated methods for constructing a stream in an area that did not formerly have one and the feasibility of doing this has been challenged by the scientific community and the Corps and EPA who discourage stream creation in the 2008 [Mitigation R]ule.

Ex. N, Palmer at 10,556 (internal footnotes omitted). The 2008 Mitigation Rule states that:

We recognize that the scientific literature regarding the issue of stream establishment and re-establishment is limited and that some past projects have had limited success (Bernhardt and others 2007). Accordingly, we have added a new paragraph at 33 CFR 332.3(e)(3) [40 CFR 230.93(e)(3)] that specifically notes that there are some aquatic resources types that are difficult to replace and streams are included among these. It emphasizes the need to avoid and minimize impacts to these ‘difficult-to-replace’ resources and requires that any compensation be provided by in-kind preservation, rehabilitation, or enhancement to the extent practicable.

73 Fed. Reg. 19,594, 19,596 (April 10, 2008). Thus, OSMRE’s conclusions about stream restoration and stream creation are not supported by scientific research.

OSMRE’s failure to demonstrate the feasibility of restoring mined streams on the mine site or recreating mined streams elsewhere off the mine site means that the proposed Stream Protection Rule cannot achieve OSMRE’s announced goal of preventing long-term environmental harm to streams. It is arbitrary and capricious for an agency to rely on speculative and unproven mitigation measures and to fail to provide any explanation or analysis showing why those measures will be effective. *OVEC v. Hurst*, 604 F. Supp. 2d 860, 894 (S.D.W.Va. 2009). (“I am left with nothing but the Corps’ unsupported belief in that conclusion . . . [T]he Corps’ statements are ‘little more than its own promise to obey the law’”) (internal citations omitted).

In the absence of proven remedies to prevent or mitigate direct stream damage, the proper course is to prevent stream destruction in the first place. The first way to do so is to preserve and strengthen existing stream-channel protections, as described in part II.D. below. In addition, OSMRE should tighten the requirements of the proposed rule with respect to restoration of stream form and function so that operators are not authorized to damage streams without solid evidence that restoration is truly feasible.

The provisions in the proposed rule governing restoration of stream form and function are far too vague and permissive. OSM must specify in § 816.57(b)(2)(i) that a restored stream must have form that is not just “comparable” but “equivalent” to the form of the pre-mining stream. OSM should delete the prefatory language in 816.57(b) about what the operator is not required to achieve. Such non-operative language is more appropriately confined to the rule preamble. Attempting to explain in the rule itself what is not required risks conflict with the affirmative requirements of the subparagraph and has serious potential to generate confusion for regulators, operators, and the public. OSM must also specify minimum requirements for restoration of stream function in § 816.57(b)(2)(ii)(A). In doing so, OSMRE can draw on the extensive work already done by EPA and the Army Corps of Engineers in developing their joint regulations governing compensatory mitigation for losses of aquatic resources, including streams. Those regulations caution that “the scientific literature regarding the issue of stream establishment and re-establishment is limited,” that “some past projects have had limited success”—an understatement, *see supra* part II.C.—, and that streams are “difficult to replace.” 73 Fed. Reg. 19,594, 19,596/3 (April 10, 2008). They too require restoration of ecological function, and they define functions as “the physical, chemical, and biological processes that occur in ecosystems.” 33 C.F.R. § 332.2. OSMRE should define restoration of ecological function to include the restoration of the physical, chemical, and biological functions of the pre-mining stream.

It is also imperative that OSMRE clarify in § 780.28 that the regulatory authority cannot issue a permit in the first place without making a well-supported determination that these form and function restoration requirements will met. To state the obvious, the determination that stream damage is remediable should be made before the damage commences.

Recommended change to § 816.57(b)(2):

(2) Restoration of form and function. You must restore the form and ecological function of the stream segment as expeditiously as practicable. You must do so either as part of the construction of a permanent stream-channel diversion or as part of the construction of a restored stream channel when the area in which the stream was located before mining is no longer needed for surface mining activities.

(i) Form. A restored stream channel or a stream-channel diversion ~~need not exactly replicate the channel morphology that existed before mining, but must~~, except as provided in paragraph (b)(4) of this section, ~~it must~~ have a channel morphology **equivalent** to the premining form of the affected stream segment in terms of baseline stream pattern, profile, and dimensions, including channel slope, sinuosity, water depth, bankfull depth, bankfull width, width of the flood-prone area, and dominant in-stream substrate.

(ii) Function. (A) A stream flowing through a restored stream channel or a stream-channel diversion **must have equivalent water flow and water chemistry to the pre-mining stream, perform the same physical, chemical, and biological functions as the pre-mining stream, and** meet the functional restoration criteria established by the regulatory authority under § 780.28(e)(1) of this chapter.

(B) ~~The restored stream need not have precisely the same biological condition or biota as the stream segment did before mining, but the biological condition of the restored stream must be adequate to support the uses of that stream segment that existed before mining and it must not preclude attainment of the designated uses of that stream segment under section 101(a) or 303(c) of the Clean Water Act before mining.~~

(C) The biological condition of the restored stream must be determined using a protocol that meets the requirements of § 780.19(e)(2) of this chapter.

(D) Populations of organisms used to determine the biological condition must be self-sustaining within the restored stream segment.

Recommended change to § 780.28(c)(2)(iv): Incorporate the form and function restoration requirements of § 816.57(b), as modified, into new subparagraphs C, D, and E:

(iv) Demonstrate that you can restore the form and ecological function of the affected stream segment, as required by § 816.57(b) of this chapter, using the techniques in the proposed reclamation plan.

* * *

(C) You must demonstrate that the restored stream channel or stream-channel diversion will have a channel morphology **equivalent** to the pre-mining form of the affected stream segment in terms of baseline stream pattern, profile, and dimensions, including channel slope, sinuosity, water depth, bankfull depth, bankfull width, width of the flood-prone area, and dominant in-stream substrate.

(D) You must demonstrate that the restored stream channel or stream-channel diversion **will have equivalent water flow and water chemistry to the pre-mining stream and be able to support the same physical, chemical, and biological processes characteristic of the pre-mining stream.**

(E) You must demonstrate that the biological condition of the restored stream channel or stream-channel diversion will be adequate to support the uses of that stream segment that existed before mining and will not preclude attainment of the designated uses of that stream segment under section 101(a) or 303(c) of the Clean Water Act before mining. The biological condition of the restored stream must be determined using a protocol that meets the requirements of § 780.19(e)(2) of this chapter. Populations of organisms used to determine the biological condition must be self-sustaining within the restored stream segment.

D. OSMRE's Failure to Protect Stream Channels Is Inconsistent with SMCRA.

As noted above, the Stream Protection Rule should prohibit damage to ecologically valuable streams in the first place, not rely on mitigation and restoration practices that are ineffective. Yet OSMRE's proposal fails to preserve and strengthen existing stream protections. That failure is inconsistent with SMCRA, unreasonable, and arbitrary.

OSMRE's rejection of stronger stream channel protections is unlawful and arbitrary, first, because it rests on an incorrect interpretation of SMCRA's purposes. OSMRE states it rejected stronger stream-channel protections because SMCRA requires that streams be sacrificed to the overriding goal of coal recovery. 2015 DEIS at ES-36 ("OSMRE determined that the impacts to coal production from this Alternative were so substantial that they ran counter to the mandate under SMCRA 102(f) to balance the need for energy with the protection of the environment.").

In fact, SMCRA does not require OSMRE to maximize coal production at all costs, including the wholesale destruction of ecologically valuable streams. In enacting SMCRA, Congress recognized that surface mining operations were "destroying fish and wildlife habitats," "polluting the water," and "counteracting government programs to conserve soil, water, and other natural resources." 30 U.S.C. § 1201(c). Congress declared its intention "to protect society

and the environment from the adverse effects of surface coal mining” and “assure that surface coal mining operations are so conducted as to protect the environment.” *Id.* § 1201(k). These purposes plainly encompass the protection of stream channels from destruction or burial under mine waste. *See* 2015 DEIS at 1-11 (“Congress identified stream protection as a fundamental purpose of SMCRA.”).

Furthermore, although as OSMRE notes, Congress declared its intention to “strike a balance” between protection of the environment and assuring the coal supply essential to meeting the nation’s energy needs, 30 U.S.C. § 1202(f), OSMRE has not shown—or even attempted to show—that strong stream protections would restrict coal production to an extent that would interfere with national energy needs. OSMRE admits that it did not even analyze the effects of an alternative with strong stream protections, and as a result OSMRE offers no estimate of its effect on coal production—apart from the vague claim that the effect would be “significant”—or any analysis of the effect on coal production in comparison to national energy needs. ES-36.

Moreover, U.S. and international coal demand is experiencing dramatic structural decline, driven primarily by increased competition from natural gas and renewables and growing regulatory restrictions on coal burning. “[R]apid development of non-fossil fuel resources is occurring as much of the existing power generation fleet in the U.S. is aging and in need of modernization and replacement.” 80 Fed. Reg. at 64,662, 64,694. Future energy needs can and should be met with increased use of renewable energy, including wind, solar, and geothermal. Indeed, it is the policy of this administration to “supply[] the reliable, affordable power needed for economic growth” through increased use of “abundant clean energy solutions.” Ex. Q, Executive Office of the President, *The President’s Climate Action Plan*, 6 (June 2013), <https://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf>. The nation’s energy needs demonstrably do not justify the destruction of streams to access more coal.

Strong stream-channel protections are fully consistent with other provisions of SMCRA. The Act makes clear that its performance standards are “minimum” standards, 30 U.S.C. § 1265(b), and expressly authorizes the Department to promulgate “other requirements” and “prescribe” “other actions.” *Id.* § 1265(a) & (b)(10)(G). OSMRE correctly recognizes that Section 1265(b)(24) applies to disposal of excess spoil and requires mining operations to comply with the environmental protection provisions of SMCRA, including the requirement to minimize environmental harm to streams. 80 Fed. Reg. at 44,519-20. A requirement that prohibited the filling of perennial or intermittent streams would therefore be consistent with SMCRA.

Second, OSMRE’s proposed rule is also inconsistent with 30 U.S.C. § 1265(c)(4)(D). That provision states that SMCRA performance standards applicable to operations that obtain approximate-original-contour (AOC) variances must, at a minimum, “require that . . . no damage will be done to natural watercourses.” OSMRE proposes, however, to adopt proposed 30 C.F.R. § 785.14(b)(9), which would allow these operations—often referred to as true mountaintop removal (MTR) mines—to damage streams, so long as the damage to the stream does not increase water pollution outside the permit area, worsen flooding outside the permit area, or disrupt water quantity outside the permit area to a greater degree than would result without the variance.

Proposed 30 C.F.R. § 785.14(b)(9) violates the plain language of 30 U.S.C. § 1265(c)(4)(D) because it would allow damage to natural watercourses. The proposed regulation would allow MTR mines to destroy miles of natural streams within the permit area, for example, by burying them under hundreds of feet of excess spoil or mining through them up to access a coal seam below, so long as the regulatory authority determined that the destruction of the streams will not produce specified downstream consequences (or even if the destruction of the streams will cause the specified downstream consequences, so long as the downstream consequences are not worse than would result without an AOC variance). Because the destruction of streams within the permit area plainly constitutes “damage” to “natural watercourses,” this approach is contrary to the statute. *See Landstar Express Am., Inc. v. Fed. Mar. Comm’n*, 569 F.3d 493, 500 (D.C. Cir. 2009) (“the agency cannot rewrite a statute”); *Leocal v. Ashcroft*, 543 U.S. 1, 12 (2004) (“we must give effect to every word of a statute wherever possible”).

OSMRE attempts to justify this departure from Congress’s clear command by asserting that SMCRA does not define either “damage” or “natural watercourses.” 80 Fed. Reg. at 44,529. That is true but irrelevant. The fact that these terms are undefined does not give OSMRE free rein to adopt any regulation it likes. Rather, undefined terms in a statute must be given their ordinary meaning. *Asgrow Seed Co. v. Winterboer*, 513 U.S. 179, 187 (1995) (citing *FDIC v. Meyer*, 510 U.S. 471, 476 (1994)). The ordinary meaning of the language “no damage . . . to natural watercourses” plainly encompasses the destruction of streams, regardless of whether the destruction of the stream has the specified effects on downstream water quantity and quality.

OSMRE’s proposed rule also violates 30 U.S.C. § 1265(c)(4)(D) by converting the requirement of “no damage . . . to natural watercourses” from a performance standard into a mere “application and approval requirement[.]” *See* 80 Fed. Reg. 44,636 (proposed 30 C.F.R. § 785.14); *id.* at 44,579 (“We propose to move existing 30 CFR 824.11(a)(9), which prohibits damage to natural watercourses below the lowest coal seam to be mined, to 30 CFR 785.14(b)(9) in revised form. We propose to do so because this requirement is really more of an operational design element (permitting requirement) than a performance standard.”). This is incorrect. SMCRA includes the obligation not to damage natural watercourses among the “environmental protection performance standards” of 30 U.S.C. § 1265. SMCRA further specifies that “[a]ny permit” for surface coal mining operations “shall require that such surface coal mining operations will meet all applicable performance standards of this chapter.” *Id.* § 1265(a). Section 1265(c)(4)(D) itself confirms that the protection for natural watercourses is a performance standard. It provides that “the regulatory authority shall require that . . . no damage will be done to natural watercourses.” By articulating this requirement in terms of what the regulatory authority must *require*—not what the regulatory authority must determine, or what the applicant must show—the statute makes clear that this requirement is a performance standard.

The contrast with the preceding paragraph—paragraph 1265(c)(3)—provides further confirmation. That paragraph speaks in terms of the circumstances under which the regulatory authority may grant a permit with an AOC variance. *Id.* § 1265(c)(3) (“the regulatory authority may grant a permit [with an AOC variance] where . . .”). If the requirements of the subsequent paragraph—paragraph (4)—were intended as additional administrative determinations, there would be no reason for Congress to list them in a separate paragraph, rather than including them in paragraph 3. Thus, under SMCRA, the prohibition on damage to natural watercourses by an

operation with an AOC variance is not simply an “application requirement,” but a performance standard that must be incorporated into the operator’s permit, as OSMRE has consistently recognized before now.

Proposed 30 C.F.R. § 785.14(b)(9) is also unreasonable and arbitrary. OSMRE has not reconciled the proposed regulation with the plain language of the statute, as it must. *Se. Ala. Med. Ctr. v. Sebelius*, 572 F.3d 912, 920 (D.C. Cir. 2009) (agency must explain how its approach “comports with the governing statute”).

Recommended change: Retain the 1983 stream buffer zone provision.

Recommended change to § 785.14(b)(9): Delete unlawful language as shown below:

(9) You have demonstrated that the operation will not damage natural watercourses within the proposed permit and adjacent areas. ~~You may meet this requirement by demonstrating that the proposed operation will comply with all of the following requirements:~~

- ~~(i) The proposed operation will not increase the amount or concentration of parameters of concern in discharges to groundwater and surface water from the proposed permit area, when compared to the discharges that would occur if the operation were designed to adhere to approximate original contour restoration requirements.~~
- ~~(ii) The proposed operation will not result in changes in the size or frequency of peak flows from the proposed permit area that would cause an increase in damage from flooding, when compared to the impacts that would occur if the operation were designed to adhere to approximate original contour restoration requirements.~~
- ~~(iii) The total volume of flow from the proposed permit area, during every season of the year, will not vary in a way that would adversely affect any existing or reasonably foreseeable use of surface water or groundwater or any designated use of surface water under section 101(a) or 303(e) of the Clean Water Act.~~

Recommended change: Add a new § 816.58 that provides:

§ 816.58 What additional performance standards apply to mountaintop removal mining operations?

If you conduct or intend to conduct mountaintop removal mining, as that term is defined in § 701.5 of this chapter, you, the permittee or operator, must ensure that

- (1) the toe of the lowest coal seam and the overburden associated with it are retained in place as a barrier to slides and erosion;
- (2) the reclaimed area is stable;
- (3) the resulting plateau or rolling contour drains inward from the out slopes except at specified points; and
- (4) no damage will be done to natural watercourses.

III. IN REJECTING A MORE PROTECTIVE ALTERNATIVE, OSMRE IGNORED RELEVANT AND IMPORTANT CONSIDERATIONS AND VIOLATED NEPA.

OSMRE states in the preamble and DEIS that it considered alternative stream protection requirements that would have provided greater protection to streams, and rejected them because they would interfere with coal production. In making this choice between alternatives, OSMRE

has overlooked relevant and important considerations that support adoption of a more protective alternative. Choosing a less protective alternative without fully considering its costs is arbitrary and capricious and violates the National Environmental Policy Act (NEPA).

Federal administrative agencies must engage in reasoned decisionmaking. *Allentown Mack Sales & Serv. Inc. v. NLRB*, 522 U.S. 359, 374 (1998). “Not only must an agency’s decreed result be within the scope of its lawful authority, but the process by which it reaches that result must be logical and rational.” *Id.* “It follows that agency action is lawful only if it rests ‘on a consideration of the relevant factors.’” *Michigan v. EPA*, 135 S. Ct. 2699, slip op. at 2706 (June 29, 2015) (quoting *Motor Vehicle Mfrs. Assn. of United States, Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)). When an agency’s discretion under a statute is broad, as OSMRE’s is here, the agency must give adequate attention to the costs associated with its choice, including harms “to human health or the environment.” *Id.*, slip op. 2707.

NEPA requires federal agencies to consider “the environmental impact of” all “major Federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332. NEPA regulations promulgated by the Council on Environmental Quality, which are entitled to “substantial deference” by courts, *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 356 (1989), require consideration of all “effects” of the federal action, whether direct, indirect, or cumulative. 40 C.F.R. §§ 1502.16, 1508.8. NEPA does not dictate substantive environmental results, but it does require that OSMRE “not act on incomplete information, only to regret its decision after it is too late to correct.” *See Sierra Club v. Slater*, 120 F.3d 623, 630 (6th Cir. 1997) (quoting *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 371 (1989)).

A. OSMRE Failed to Consider that Coal Demand Is in Structural Decline.

OSMRE states that it rejected more protective alternatives because their alleged negative impact on the nation’s energy needs would be too great. 2015 DEIS at ES-36 (“OSMRE determined that the impacts to coal production from this Alternative were so substantial that they ran counter to the mandate under SMCRA 102(f) to balance the need for energy with the protection of the environment.”). In making this determination, OSMRE failed to consider the fact that the nation’s demand for coal is in sharp, sustained decline brought about by structural changes in the way energy markets are functioning.

Reductions in coal production that would be associated with strong stream protections are a drop in the bucket compared to the large-scale, economy-wide transition away from coal that OSMRE admits is under way. Central Appalachian coal deliveries to U.S. power producers are down about 33 percent in the last five years, with utilities turning more to natural gas and cheaper coals, or closing units entirely.⁷ Even without any action by OSMRE, OSMRE predicts “declines in surface coal production . . . in nearly all coal regions between 2020 and 2040, with annual production falling from 721 million tons to 610 million tons over the time period.” DEIS 4-33. OSMRE predicts overall underground coal production to drop from 358 million tons to 306 million tons over the same period. *Id.* In other words, market forces and other regulations are

⁷ Ex. R, SNL, *After brief uptick, domestic demand for Central App coal resumes slide*, Data Dispatch (September 4, 2015).

predicted to reduce annual coal production by over 150 million tons per year. By contrast, the most environmentally protective alternative analyzed by OSMRE is projected to reduce annual coal production by only 3.2 million tons. DEIS at 4-42.

The U.S. electric power generation sector, which “accounted for about 90 percent of U.S. coal production in 2012 and 2013,” DEIS 4-33, is steadily transitioning away from coal. According to the Obama administration’s marquee energy initiative—the recently finalized Clean Power Plan— “[i]t is evident that, in the recent past, coal-fired electricity generation has been reduced, and projected future trends are for continued reduction.” 80 Fed. Reg. at 64,725. Coal consumption by the U.S. power generation sector has fallen by 21 percent since 2007,⁸ while renewable energy has become cost-competitive with fossil-fuel generation⁹ and grown rapidly as a result. 80 Fed. Reg. 64,729. Clean air and climate policies, including the Clean Power Plan, will only accelerate this transition. “Nationwide, by 2030, [the Clean Power Plan] will achieve CO₂ emission reductions from the utility power sector of approximately 32 percent from CO₂ emission levels in 2005” and coal’s share of generation capacity will drop from 39 percent today to “about 27 percent.” *Id.* at 64,665. In other words, the U.S. electric power generation sectors’ need for coal is projected to drop by about one third by 2030. Yet OSMRE predicts a decline in overall U.S. coal production of only “15 percent (162 million tons).” DEIS at 4-31. The upshot is clear: unless operators reduce coal production to a far greater degree than OSMRE forecasts, the current coal glut will only worsen as the supply of coal continues to drastically outpace declining demand from the power generation sector.

The dramatic decline in coal demand is a global trend. Seaborne thermal coal markets are oversupplied, demand has weakened globally for the second year in a row, and the trend is likely to continue. The most optimistic forecasts, which predict modest growth in demand of 1 to 2 percent annually, depend on the dubious assumption that Indian and Chinese demand for thermal coal imports will show moderate growth in the medium term.¹⁰ But China’s recent equity market collapse and currency devaluation, and India’s promotion of domestic coal production¹¹ and growing embrace of renewables and efficiency, all suggest continued weak demand ahead.¹² The

⁸ Ex. S, Jonathan Chait, *The Sunniest Climate Change Story You’ve Ever Read*, New York Magazine (Sept. 7, 2015), <http://nymag.com/daily/intelligencer/2015/09/sunniest-climate-change-story-ever-read.html>.

⁹ See Lazard, *Levelized Cost of Energy Analysis Version 8.0* (Sept. 2014), https://www.lazard.com/media/1777/levelized_cost_of_energy_-_version_80.pdf

¹⁰ Ex. T, Tim Buckley, *Thermal Coal Hits a New Low. Where Does the Market Go From Here?*, Institute for Energy Economics and Financial Analysis (Sep. 8, 2015), <http://ieefa.org/thermal-coal-hits-a-new-low-where-does-the-market-go-from-here/>.

¹¹ Tim Buckley, *India’s Electricity-Sector Transformation*, Institute for Energy Economics and Financial Analysis (Aug. 10, 2015), <http://ieefa.org/india-electricity-sector-transformation/>.

¹² Ex. U, Tim Buckley, *In China’s Turmoil, Further Declines for Coal*, Institute for Energy Economics and Financial Analysis (Aug. 26, 2015), <http://ieefa.org/in-chinas-turmoil-further-declines-for-coal/>.

world price for thermal coal, as measured by the Newcastle 5,500 kcal/kg benchmark,¹³ hit a new low in August 2015—\$US42/ton—and is down 20 percent in the year to date. While most U.S. producers simply are not competitive at these prices, Columbian and Russian producers can push their marginal cost of production down to the low \$US30/ton.¹⁴ The U.S. Energy Information Agency recently summarized the export picture for U.S. producers: “Slower growth in world coal demand, lower international coal prices, and higher coal output in other coal-exporting countries have all led to a decline in U.S. coal exports.”¹⁵

By failing to consider the dramatic declines in U.S. and global demand for coal, regulatory changes unrelated to the proposed rule that will only speed those declines, or the availability of ready alternatives (renewables, natural gas, and energy efficiency) to meet the nation’s need for energy in the event that demand for coal did somehow exceed supply, OSMRE has “entirely failed to consider an important aspect of the problem” when making its choice between regulatory alternatives. *State Farm*, 463 U.S. at 43. OSMRE has also arbitrarily relied on the nation’s energy needs to reject stream protections that would not compromise the nation’s ability to meet its energy needs.

B. OSMRE Failed to Consider that Coal Mining Is a Net Economic Drain on Appalachia.

OSMRE rejected the most protective alternative analyzed—alternative 2—in part due to predicted “Major Adverse impacts on socioeconomic conditions including, in particular, employment and severance taxes.” especially in Appalachia. DEIS at ES-39 to ES-40, 4-20. In doing so, OSMRE unlawfully and arbitrarily failed to consider the major economic costs that surface coal mining imposes on Appalachia.

Surface coal mining costs the economy of Appalachia more than it provides. Claims about the economic benefits of coal mining—including OSMRE’s—ignore the expenditures used to subsidize coal consumption and cover costs that are externalized by the industry. For example, in Kentucky this includes an estimated

\$239 million to address the industry’s impact on the coal haul road system as well as expenditures to regulate the environmental and health and safety impacts of coal, support coal worker training, conduct research and development for the coal industry, promote education about coal in the public schools and support the residents directly and

¹³ Ex. V, The Newcastle benchmark is a daily forward-looking price assessment based on the “net calorific value (heating value) of the coal in kilocalories per kilogram.” Platts McGraw Hill Financial, *FOB Newcastle 5,500 NAR Coal*, (undated), <http://www.platts.com/price-assessments/coal/newcastle-5500>.

¹⁴ Ex. W, Surya Kanegaonkar, *Platts Analytics: Thermal coal stands as a leading indicator to equities*, Platts McGraw Hill Financial (Aug. 25, 2015), <http://www.platts.com/latest-news/coal/houston/platts-analytics-thermal-coal-stands-as-a-leading-21019611>

¹⁵ U.S. Energy Information Administration, *Short-Term Energy Outlook* at 10 (September 9, 2015), <http://www.eia.gov/forecasts/steo/archives/sep15.pdf>.

indirectly employed by coal [and] \$85 million in tax expenditures designed to subsidize the mining and burning of coal.¹⁶

As a result the coal mining industry has a negative net impact on Kentucky's economy: in just one year (FY 2006), the total net impact of the coal industry on the state's budget amounted to a net cost to the state of \$115 million.¹⁷

A similar report for West Virginia estimated that the net cost of the coal industry to the West Virginia state budget for Fiscal Year 2009 was about \$97.5 million.¹⁸ For Virginia, the net cost to the state for Fiscal Year 2009 was about \$21.9 million.¹⁹ And in Tennessee, the net cost to the state budget for Fiscal Year 2009 was about \$3 million.²⁰ This money spent propping up the coal mining industry represents a loss to the public interest in supporting public infrastructure, health, and education, and a lost opportunity to achieve greater economic diversification.

Significantly, the above studies do not account for the costs of illness and death that may be attributable to pollution from coal mining.²¹

C. OSMRE Failed to Consider that Surface Coal Mining Is Associated with Serious and Widespread Public Health Problems in Appalachia.

Overwhelming scientific evidence links the practice of surface coal mining with elevated rates of serious health problems—including cancer, kidney disease, birth defects, cardiovascular disease, and pulmonary disease—in the coal-producing regions of Appalachia, and overall mortality rates are about 20 percent higher than the national average.²² Significant correlations persist even after statistical corrections are made for age, smoking, alcohol consumption, obesity, poverty, education, availability of doctors,

¹⁶ Ex. X, Melissa Fry Konty and Jason Bailey, *The Impact of Coal on the Kentucky State Budget* at 2, Mountain Association for Community Economic Development (June 25, 2009).

¹⁷ Ex. X, *Id.* at 1.

¹⁸ Ex. Y, Rory McIlmoil et al., *Coal and Renewables in Central Appalachia: The Impact of Coal on the West Virginia State Budget* at xi, Downstream Strategies and West Virginia Center on Budget and Policy (June 22, 2010)

¹⁹ Ex. Z, Rory McIlmoil et al., *The Impact of Coal on the Virginia State Budget* at ix, Downstream Strategies (Dec. 12, 2012).

²⁰ Ex. AA, Rory McIlmoil et al., *The Impact of Coal on the Tennessee State Budget* at xi, Downstream Strategies and West Virginia Center on Budget and Policy (June 22, 2010).

²¹ See, e.g. Ex. X, *The Impact of Coal on the Kentucky State Budget* at 2 (“We do not include the many externalized costs imposed by coal including healthcare, lost productivity resulting from injury and health impacts, water treatment from siltation caused by surface mining, water infrastructure to replace damaged wells, limited development potential due to poor air quality, and social spending associated with declines in coal employment and related economic hardships of coalfield communities.”).

²² See Ex. BB, Michael Hendryx, *Summaries of articles showing public health consequences of Appalachian coal mining*, p. 2 (Aug. 2012).

and other risk factors. Those correlations hold not only for men, who experience most on-the-job exposures, but for women and children as well.

Within Appalachia, the most significant adverse health impacts are concentrated in the central portion of the region. The [Appalachian Regional Commission] report on disparities in health status and access to health care concluded that “[t]here is a discernable [sic] pattern of large clusters of high death rate counties in Central Appalachia.”²³

“Coal mining areas, however, show elevated age-adjusted mortality both before and after adjustment for covariates.... Age-adjusted mortality rates for Appalachian coal mining areas lag about 24 years behind national rates outside Appalachia.”²⁴ “After adjustment for all covariates, Appalachian coal mining areas were characterized by 1,607 excess annual deaths over the period 1999-2004. Adjusted mortality rates increase with increasing coal production from 1 to 7 million tons.”²⁵ Indeed, “[c]ounties in Appalachia where coal mining is heaviest had significantly higher age-adjusted mortality compared to other Appalachian counties and to other areas of the country.”²⁶ Another study found that “hospitalizations for [chronic obstructive pulmonary disease] and hypertension are significantly elevated as a function of Appalachian coal production at the county level. The risk increases significantly as the volume of coal mining rises.”²⁷

OSMRE recently acknowledged the weighty scientific evidence that surface coal mining is causing disease and death in Appalachia.²⁸ In light of that acknowledgment, there is no justification for OSMRE to fail to consider the public health consequences of its decision. Likewise, EPA’s final action on the Spruce No. 1 Mine cited nine studies linking mountaintop removal mining and public health impacts. In its final decision EPA acknowledged that “[a] growing body of research suggests that health disparities are not uniformly distributed across the Appalachian region, but instead are concentrated in areas where surface coal mining activity takes place (Hendryx et al. 2007, 2008, Hendryx 2008, Hitt and Hendryx 2010, Hendryx and Zullig 2009).”²⁹ EPA’s 2011 Guidance cited

²³ Ex. CC, J.A. Halverson et al., *An Analysis of Disparities in Health Status and Access to Health Care in the Appalachian Region* at p. xxi, executive summary of report prepared for the Appalachian Regional Commission, Office of Social Environment and Health Research/Prevention Research Center (Nov. 2004).

²⁴ Ex. DD, 1 Michael Hendryx, *Mortality Rates in Appalachian Coal Mining Counties: 24 Years Behind the Nation* at 8, Environmental Justice (No. 1 2008).

²⁵ Ex. DD, *Id.* at 5.

²⁶ Ex. DD, *Id.*

²⁷ Ex. EE, Hendryx et al., Hospitalization Patterns Associated with Appalachian Coal Mining, *Journal of Toxicology and Environmental Health* (2007) 70: 2064-2070 at 2068.

²⁸ Ex. FF, Washington Times via Associated Press, *Officials want mining health effects to be closely studied*, (June 6, 2015), <http://www.washingtontimes.com/news/2015/jun/6/officials-want-mining-health-effects-to-be-closely/>.

²⁹ Ex. I, EPA, *Final Determination on Spruce No. 1 Mine* at 96, Appendix 7 – References (Jan. 13, 2011).

some of these studies, as well as an additional study that examined the association between mountaintop removal mining and birth defects.³⁰

These health costs dwarf any economic benefits to Appalachia from surface coal production. Using the value of a statistical life lost of \$7.5 million, the deaths attributable to surface coal mining in Appalachia represent a total cost of \$74.6 billion. “In contrast,...the direct (monetary value of mining industry jobs, including employees and proprietors), indirect (suppliers and others connected to the coal industry), and induced (ripple or multiplier effects throughout the economies) economic benefits of coal mining to Appalachia...” are only \$8.08 billion in 2005 US\$.³¹

D. OSMRE Failed to Analyze the Effect of the Proposed Rule on Climate Change.

Although OSMRE’s choice between alternatives will have significant consequences for greenhouse gas pollution through methane emissions and coal combustion, OSMRE failed to analyze the greenhouse gas pollution consequences of the alternatives or disclose that pollution’s social, economic, and ecological impacts. An agency must “consider every significant aspect of the environmental impact of a proposed action.” *Baltimore Gas & Elec. Co.*, 462 U.S. at 107 (quotations and citation omitted). To fulfill this mandate, agencies must disclose the “ecological[,] ... economic, [and] social” impacts of a proposed action. 40 C.F.R. § 1508.8(b). It is well settled that where an agency action results in greenhouse gas pollution, NEPA and sound agency decisionmaking mandates that agencies analyze and disclose the impacts of that pollution. As the Ninth Circuit has held:

[T]he fact that climate change is largely a global phenomenon that includes actions that are outside of [the agency’s] control ... does not release the agency from the duty of assessing the effects of *its* actions on global warming within the context of other actions that also affect global warming.

Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin., 538 F.3d 1172, 1217 (9th Cir. 2008) (quotations and citations omitted); *see also Border Power Plant Working Grp. v. U.S. Dep’t of Energy*, 260 F. Supp. 2d 997, 1028-29 (S.D. Cal. 2003) (finding agency failure to disclose project’s indirect carbon dioxide emissions violates NEPA). The need to evaluate such impacts is bolstered by the fact that “[t]he harms associated with climate change are serious and well recognized,” and environmental changes caused by climate change “have already inflicted significant harms” to many resources around the globe. *Massachusetts v. EPA*, 549 U.S. 497, 521 (2007); *see also id.* at 525 (recognizing “the enormity of the potential consequences associated with manmade climate change.”).

³⁰ Ex. GG, Memorandum, EPA, *Improving EPA Review of Appalachian Surface Coal Mining Operations Under the Clean Water Act, National Environmental Policy Act, and the Environmental Justice Executive Order*, at 4 (2011).

³¹ Ex. HH, Paul R. Epstein et al., *Full cost accounting for the life cycle of coal*, *Annals of the New York Acad. of Sci.* 1219 (2011) 73–98 at 83.

OSMRE admits that “the Action Alternatives could influence coal use at power plants and thereby affect the emission of greenhouse gases and associated social costs.” DEIS 4-175. But OSMRE declines to estimate or quantify the impacts, claiming that the task would be “complex.” *Id.* OSMRE’s failure even to attempt to characterize the differential climate impacts of its alternatives violates NEPA. *High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F. Supp. 3d 1174 (D. Colo. 2014). The failure undercuts both of NEPA’s twin goals: “ensur[ing] that agencies take a hard look” at a proposal’s environmental impacts, and informing “the public so that they may play a role” in decisionmaking. *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 446-48 (4th Cir. 1996) (citing *Robertson*, 490 U.S. at 349).

NEPA requires that agencies faced with uncertainty “evaluat[e] . . . impacts based upon theoretical approaches . . . generally accepted in the scientific community.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 354 (1989) (quoting 40 C.F.R. § 1502.22(b)). *See also Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 549-50 (8th Cir. 2003) (applying 40 C.F.R. 1502.22(b) to require agency to consider the climate change impacts of expanded coal consumption resulting from a new train line, despite uncertainty about the size of the contribution).

Total fossil-fuel energy-related CO₂ emissions (including both stationary and mobile sources) are the largest contributor to total U.S. greenhouse gas emissions, representing 77.3 percent of total 2013 greenhouse gas emissions.³² Moreover

Carbon makes up the majority of the mass of coal and other fossil fuels, and for every ton of carbon burned, more than 3 tons of CO₂ is produced. In addition, unlike many of the other air pollutants that react with sunlight or chemicals in the atmosphere, or are rained out or deposited on surfaces, CO₂ is relatively unreactive and difficult to remove directly from the atmosphere. CO₂’s huge quantities and lack of reactivity make it challenging to remove from the smokestack.

80 Fed. Reg. 64,690. The upshot is clear: the national goal of reducing U.S. CO₂ emissions requires burning less fossil fuels, including less coal.

The social cost of carbon protocol for assessing climate impacts is a method for estimating the damages associated with a small increase in CO₂ emissions, conventionally 1 metric ton, in a given year and represents the value of damages avoided for a small emission reduction (i.e. the benefit of a CO₂ reduction).³³ It is intended to include changes in net agricultural productivity, human health, property damages, and the value of ecosystem services,

³² U.S. Environmental Protection Agency, “Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2013” (April 2015) at Table ES-2, available at: <http://epa.gov/climatechange/ghgemissions/usinventoryreport.html>.

³³ Ex. II, EPA, *Fact Sheet: Social Cost of Carbon* at 1, (Nov. 2013), <http://www.epa.gov/climatechange/Downloads/EPAactivities/scc-fact-sheet.pdf>.

all of which climate change can degrade.³⁴ As such, the social cost of carbon includes not only socioeconomic harm but also harm to the environment. The protocol was developed by a working group consisting of a dozen federal agencies, including the U.S. Department of Agriculture, with the primary aim of implementing Executive Order 12866, which requires that the costs and benefits of proposed regulations be taken into account.

The Interagency Working Group's protocol was published in 2010.³⁵ It was then revised and updated in 2013.³⁶ The social cost of carbon protocol includes a range of values for the cost of each additional ton of carbon, based on varying discount rates. In this way, the protocol addresses uncertainty by providing a range of values to assess the cost of carbon.³⁷

Depending on the discount rate and the year during which the carbon emissions are produced, the Interagency Working Group estimates the cost of carbon emissions, and therefore the benefits of reducing carbon emissions, to range from \$11 to \$220 per metric ton of carbon dioxide. In July 2014, the U.S. Government Accountability Office ("GAO") confirmed that the Interagency Working Group's estimates were based on sound procedures and methodology.³⁸

The interagency social cost of carbon protocol was developed to assist agencies in understanding the costs and benefits of rulemakings. It is thus appropriate to apply the social cost of carbon in disclosing the impacts of this rulemaking. The social cost of carbon is a simple tool that is easy for federal agencies to use and easy for the public to understand. Putting a dollar figure on each ton of CO₂ emitted as a result of a federal project places climate impacts in a context that both decision makers and the public can readily comprehend. It is backed by years of peer-reviewed scientific and economic research, it is designed to be updated to reflect the most current information, and it has already been used by federal agencies in both rulemaking

³⁴ Ex. JJ, Interagency Working Group on Social Cost of Carbon, *Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866* at 1 (Feb. 2010), <https://www.whitehouse.gov/sites/default/files/omb/inforeg/for-agencies/Social-Cost-of-Carbon-for-RIA.pdf>; see also Ex. KK, Cass R. Sunstein, *The Real World of Cost-Benefit Analysis: Thirty-Six Questions (and Almost as Many Answers)*, 114 Colum. L. Rev. 167, 171-73 (Jan. 2014) (describing origins of interagency agreement on the social cost of carbon).

³⁵ Ex. JJ, Interagency Working Group on Social Cost of Carbon at 1 (Feb. 2010).

³⁶ Interagency Working Group on Social Cost of Carbon, *Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866* (May 2013), https://www.whitehouse.gov/sites/default/files/omb/inforeg/social_cost_of_carbon_for_ria_2013_update.pdf.

³⁷ Ex. JJ, Interagency Working Group (2010) at 1 ("The main objective of this process was to develop a range of [social cost of carbon] values using a defensible set of input assumptions grounded in the existing scientific and economic literatures. In this way, key uncertainties and model differences transparently and consistently inform the range of SCC estimates").

³⁸ Ex. LL, GAO, *Regulatory Impact Analysis: Development of Social Cost of Carbon Estimates*, GAO-14-663 (July 2014), <http://www.gao.gov/assets/670/665016.pdf>.

decisions and project-level reviews under NEPA. Therefore, OSMRE should use the social cost of carbon to disclose the impacts of its alternatives on coal use and carbon emissions.³⁹

It is important to note that the social cost of carbon protocol presents a conservative estimate of damages associated with the environmental impacts of climate change. As the EPA has noted, the protocol “does not currently include all important [climate change] damages.”⁴⁰ The models used to develop social cost of carbon estimates do not currently include all of the important physical, ecological, and economic impacts of climate change recognized in the climate change literature because of a lack of precise information on the nature of damages and because the science incorporated into these models naturally lags behind the most recent research.⁴¹

Scientific reviews have similarly concluded that the interagency social cost of carbon estimates do not account for, or poorly quantify, certain impacts, suggesting that the estimated values are conservative and should be viewed as a lower bound.⁴² Recent studies have reported significantly higher carbon costs. For instance, a report published in January 2015 found that current estimates for the social cost of carbon should be increased six times for a mid-range value of \$220 per ton.⁴³ In spite of uncertainty and likely underestimation of carbon costs, nevertheless, “the [social cost of carbon] is a useful measure to assess the benefits of CO₂ reductions,” and thus a useful measure to assess the costs of CO₂ increases.⁴⁴

That the impacts of climate change, as reflected by an assessment of social cost of carbon, should be a significant consideration in agency decisionmaking is emphasized by a

³⁹ For more on the utility and necessity of using the social cost of carbon in NEPA analysis, see *Letter of Center for Biological Diversity et al. to Council on Environmental Quality*, pp. 4-10 (Mar. 25, 2015); N. Shoaff & M. Salmon, *Incorporating the Social Cost of Carbon into National Environmental Policy Act Reviews for Federal Coal Leasing Decisions*, Sierra Club (April 2015), <http://content.sierraclub.org/environmentallaw/sites/content.sierraclub.org.environmentallaw/files/SCC%20White%20Paper%20FINAL.pdf>.

⁴⁰ Ex. II, EPA, *Fact Sheet: Social Cost of Carbon* at 1.

⁴¹ *Id.*

⁴² See Ex. MM, Peter Howard, *Omitted Damages: What’s Missing from the Social Cost of Carbon*, Environmental Defense Fund, Institute For Policy Integrity, Natural Resources Defense Council (March 13, 2014) (providing, for example, that damages such as “increases in forced migration, social and political conflict, and violence; weather variability and extreme weather events; and declining growth rates” are either missing or poorly quantified in SCC models); Frank Ackerman & Elizabeth A. Stanton, *Climate Risks and Carbon Prices: Revising the Social Cost of Carbon* (2012) (concluding that the 2010 Interagency social cost of carbon “omits many of the biggest risks associated with climate change, and downplays the impact of current emissions on future generations,” and suggesting that the social cost of carbon should be almost \$900 per ton of carbon); Frances C. Moore and Delavane B. Diaz, *Temperature impacts on economic growth warrant stringent mitigation policy*, Nature Climate Change (Jan. 12, 2015) (identifying a central value of \$220 for one ton of additional CO₂).

⁴³ See Moore & Diaz, *Temperature impacts on economic growth* at 2.

⁴⁴ Ex. II, EPA, *Fact Sheet: Social Cost of Carbon* at 1.

recent White House report, which warned that delaying carbon reductions would yield significant economic costs.⁴⁵ As the report states:

[D]elaying action to limit the effects of climate change is costly. Because CO₂ accumulates in the atmosphere, delaying action increases CO₂ concentrations. Thus, if a policy delay leads to higher ultimate CO₂ concentrations, that delay produces persistent economic damages that arise from higher temperatures and higher CO₂ concentrations. Alternatively, if a delayed policy still aims to hit a given climate target, such as limiting CO₂ concentration to given level, then that delay means that the policy, when implemented, must be more stringent and thus more costly in subsequent years. In either case, delay is costly.⁴⁶

The requirement to analyze the social cost of carbon is supported by the general requirements of NEPA, specifically supported in federal case law, and by Executive Order 13514.

To this end, courts have ordered agencies to assess the social cost of carbon pollution even before a federal protocol for such analysis was adopted. In 2008, the U.S. Court of Appeals for the Ninth Circuit ordered the National Highway Traffic Safety Administration to include a monetized benefit for carbon emissions reductions in an Environmental Assessment prepared under NEPA. *Ctr. for Biological Diversity v. Nat'l. Highway Traffic Safety Admin.*, 538 F.3d 1172, 1203 (9th Cir. 2008). The Highway Traffic Safety Administration had proposed a rule setting corporate average fuel economy standards for light trucks. A number of states and public interest groups challenged the rule for, among other things, failing to monetize the benefits that would accrue from a decision that led to lower carbon dioxide emissions. *Id.* at 1199. The Administration had monetized the employment and sales impacts of the proposed action. The agency argued, however, that valuing the costs of carbon emissions was too uncertain. *Id.* at 1200. The court found this argument to be arbitrary and capricious. *Id.* The court noted that while estimates of the value of carbon emissions reductions occupied a wide range of values, the correct value was “certainly not zero.” *Id.* It further noted that other benefits, while also uncertain, were monetized by the agency. *Id.* at 1202.

More recently, the U.S. District Court for the District of Colorado reached the same conclusion for a federally approved coal lease. That court began its analysis by recognizing that a monetary cost-benefit analysis is not universally required by NEPA. *High Country Conservation Advocates*, 52 F. Supp. 3d at 1182, citing 40 C.F.R. § 1502.23. However, when an agency prepares a cost-benefit analysis, “it cannot be misleading.” *Id.* (citations omitted). In that case, the NEPA analysis included a quantification of benefits of the project. However, the quantification of the social cost of carbon, although included in earlier analyses, was omitted in the final NEPA analysis. *Id.* at 1190-91. The agencies then relied on the stated benefits of the project to justify project approval. This, the court explained, was arbitrary and capricious. *Id.* at

⁴⁵ Council of Economic Advisers, *The Cost of Delaying Action to Stem Climate Change*, Executive Office of the President of the United States (July 2014), https://www.whitehouse.gov/sites/default/files/docs/the_cost_of_delaying_action_to_stem_climate_change.pdf.

⁴⁶ *Id.* at 1.

1191. The approval was based on a NEPA analysis with misleading economic assumptions, an approach long disallowed by courts throughout the country. *Id.* at 1191-92.

The requirement to analyze the social cost of carbon is supported by the general requirements of NEPA, specifically supported in federal case law, and by Executive Order 13514. For all of these reasons, OSMRE must use the social cost of carbon as a way of disclosing the scope and nature of climate pollution impacts—including, but not limited to, the increase in climate pollution from coal combustion—on the human environment.⁴⁷

Further, where that pollution is methane, OSMRE should use multipliers that reflect the latest science concerning the short- and long-term impacts of methane pollution. In 2014, the International Panel on Climate Change (“IPCC”) calculated the global warming potential of one ton of methane as 34 times that of one ton of CO₂ on a 100-year time scale (up from 25 in IPCC’s Fourth Assessment Report (“AR4”) from 2007) and 86 times that of one ton of CO₂ on a 20-year time scale (up from 72 in AR4).⁴⁸ Because methane remains in the atmosphere for an average of 8 to 12 years, the 20-year figure is the most relevant.⁴⁹

These multipliers, however, will not likely capture the full social cost of methane pollution. The Interagency Working Group developed the federal social cost of carbon values to assess the social impacts of CO₂ emissions in particular, not all greenhouse gases. Advocates have urged federal policymakers to develop similar social cost frameworks for other greenhouse gases, but no such efforts have yet been undertaken by the government. The need for a comprehensive social cost analysis for non-CO₂ greenhouse gases is especially pressing in the case of methane, which is the second-largest driver of climate change in terms of overall emissions and is associated with many projects that entail federal action. Until the federal government develops a social cost of methane estimate, we urge the Council on Environmental Quality to instruct agencies to consider and address the available research on this topic when performing NEPA reviews for projects that may result in methane emissions. Notably, in 2012 EPA economists Alex L. Marten and Stephen C. Newbold published a peer-reviewed analysis

⁴⁷ Draft guidance from the Council on Environmental Quality fails to properly address the social cost of carbon. *See letter of Center for Biological Diversity* (Mar. 25, 2015) at 4-10. However, even the Council on Environmental Quality’s draft guidance recognizes that where an agency chooses to disclose the economic and financial benefits of an action—as the Forest Service did in the Colorado Roadless Rule Final EIS at 315-327—the social cost of carbon represents an appropriate tool to disclose the costs of the agency’s action, including the social cost of carbon. *See* 79 Fed. Reg. 77,802, 77,827 (Dec. 24, 2014).

⁴⁸ Gunnar Myhre et al., *Climate Change 2013: The Physical Science Basis*, “Ch. 8: Anthropogenic and Natural Radiative Forcing” at 714, IPCC (2013), http://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_Chapter08_FINAL.pdf (methane multipliers include climate-carbon feedbacks in response to methane emissions).

⁴⁹ These figures for methane’s global warming potential are more recent and more defensible than those used in, for example, AECOM’s “Technical Reference Document for the Colorado Underground Coal Mine Emission Inventory Tool,” which assumes a global warming potential for methane of just 21. *See* AECOM’s “Technical Reference Document for the Colorado Underground Coal Mine Emission Inventory Tool,” (Oct. 2012) at 2-12.

estimating the social cost of methane at a range of \$450 to \$2,300 per metric ton in 2015.⁵⁰ The study authors largely followed the methodology used by the Interagency Working Group to estimate the social cost of carbon, and their results should serve as a starting point for any climate impact analysis involving methane emissions. However, in light of developments following the publication of the Marten and Newbold paper (namely, the IPCC's upward revision of the radiative forcing capacity of methane and methodological changes adopted in 2013⁵¹ by the Interagency Working Group that increased the social cost of carbon estimates), the Marten and Newbold study would yield a much greater social cost of methane if repeated today. OSMRE should address the findings of the Marten and Newbold paper (and any other relevant research) while acknowledging that it significantly underestimates the true social cost of methane.

OSMRE must also address significant new information concerning climate change. Recent studies demonstrate the need to keep the vast majority of the world's known reserves of fossil fuels in the ground if the planet is to avoid warming so severe as to have significant consequences for all life, including human life. The significant threat posed by climate change should inform OSMRE's choice between alternatives, which will have a significant impact on total U.S. coal production and consumption for the foreseeable future. Alternatives that result in higher supplies of coal over the next few decades will contribute to lower coal prices and higher coal consumption, which in turn will feed our dependence on fossil fuels and add to climate pollution for decades to come.

An increasing body of scientific literature indicates that to avoid the worst consequences of climate change, the vast majority of fossil fuel reserves must stay in the ground. As part of its consideration of a rule that will govern the circumstances under which hundreds of millions of tons of coal may be mined for combustion, and certainly before rejecting more environmentally protective alternatives, OSMRE must inform the public and decisionmakers of the dramatic reductions in greenhouse gases that are required to avert global catastrophe. Recent scholarship affirms the urgency of keeping fossil fuels in the ground in order to avert the worst harms from climate change. For example, a recent peer-reviewed article published in the prestigious research journal *Nature* concluded that if we are to keep climate change below dangerous levels, 80 percent of global coal reserves, half of all gas reserves, and a third of oil reserves must stay in the ground through 2050.⁵² The U.S. must leave between 92 percent and 95 percent of its coal

⁵⁰ See Alex L. Marten & Stephen C. Newbold, *Estimating the Social Cost of Non-CO₂ GHG Emissions: Methane and Nitrous Oxide* at 18, EPA (2011), [http://yosemite.epa.gov/ee/epa/eed.nsf/ec2c5e0aaed27ec385256b330056025c/f7c9fc6133698cc38525782b00556de1/\\$FILE/2011-01v2.pdf](http://yosemite.epa.gov/ee/epa/eed.nsf/ec2c5e0aaed27ec385256b330056025c/f7c9fc6133698cc38525782b00556de1/$FILE/2011-01v2.pdf).

⁵¹ See generally Interagency Working Group (2013).

⁵² 517 Christophe McGlade & Paul Ekins, *The Geographical Distribution of Fossil Fuels Unused When Limiting Global Warming to 2 [deg] C* pp. 187-190, *Nature* (Jan. 8, 2015), abstract available at <http://www.nature.com/nature/journal/v517/n7533/full/nature14016.html>.

reserves in the ground.⁵³ As President Obama affirmed recently, “climate change can no longer be denied—or ignored.”⁵⁴

Notably, there is international consensus that in order to avoid the worst impacts of climate change, global temperature increases must not exceed 2°C above preindustrial temperatures.⁵⁵ To meet this threshold of safety, “deep cuts in global emissions are required.”⁵⁶ In order to have better-than-even odds of meeting this target, “cumulative CO₂ emissions from all anthropogenic sources [must] stay between ... 0 and 1000 [gigatons carbon].... An amount of 531 [446 to 616] [gigatons carbon], was already emitted by 2011.”⁵⁷ This means that, for the rest of the century, all nations on the planet can only emit approximately 470 gigatons of carbon.⁵⁸ To meet this limit, “between two-thirds and four-fifths of the planet’s reserves of coal, oil, and gas” need to stay in the ground.⁵⁹ However, if unabated, “[b]urning all fossil fuels would produce a different, virtually uninhabitable, planet.”⁶⁰ A proposal to authorize the excavation of massive quantities of coal must be viewed in this context. Indeed, the purpose and need for this proposal is questionable given the dire consequences of “business as usual” with respect to coal mining and combustion.

Other studies and reports that OSMRE must address to understand the alternatives in the context of climate change include:

- The 2013 update of the Interagency Working Group on the social cost of carbon.⁶¹ This update increased the federal government’s estimate of the costs of each additional ton of climate pollution, indicating both that our understanding of the costs of climate change has improved, and that the cost of climate pollution—by constraining our ability to enjoy a livable planet—is increasing.

⁵³ *Id.* at 189, Table 1.

⁵⁴ Barack Obama, President of the United States, Weekly Address (Apr. 18, 2015), <https://www.whitehouse.gov/the-press-office/2015/04/17/weekly-address-climate-change-can-no-longer-be-ignored-0>.

⁵⁵ Copenhagen Accord, ¶ 1 (Dec. 18, 2009) (“To achieve the ultimate objective of the Convention to stabilize greenhouse gas concentration in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system, we shall, recognizing the scientific view that the increase in global temperature should be below 2 degrees Celsius, on the basis of equity and in the context of sustainable development, enhance our long-term cooperative action to combat climate change.”).

⁵⁶ *Id.* ¶ 2.

⁵⁷ IPCC Working Group I, *Climate Change 2013: the Physical Science Basis: Summary for Policy Makers* at 25 (2013).

⁵⁸ Stated in terms of gigatons CO₂, the remaining budget is approximately 1900. IPCC, *Climate Change 2014: Synthesis Report* at 8-9, (2014).

⁵⁹ Bill McKibben, *Global Warming’s Terrifying New Math*, Rolling Stone (Aug. 2, 2012); Bill McKibben, *Obama and Climate Change: The Real Story*, Rolling Stone (Dec. 17, 2013).

⁶⁰ James Hansen et al., *Climate sensitivity, sea level and atmospheric carbon dioxide* 371 Phil. Transactions of the Royal Soc’y, Oct. 28, 2013; *see also* Global Carbon Project, *Global Carbon Budget 2014* (Sept. 21, 2014).

⁶¹ *See* Interagency Working Group (2013).

- The IPCC Fifth Assessment, completed in 2014, which provides additional evidence of the harms that are occurring and are likely to result from climate change.⁶²
- The 2014 National Climate Assessment, which details the threat climate change poses to water resources in the American Southwest (including Colorado) and concludes that the elderly, children, the poor and the sick are all more vulnerable to climate-change-related health impacts.⁶³
- EPA's 2015 report detailing the latest information on U.S. anthropogenic greenhouse gas emission trends from 1990 through 2013.⁶⁴
- Two papers from late 2012, authored by Hansen et al., demonstrating the link between anthropogenic climate change and extreme weather events, including extreme heat and drought.⁶⁵
A 2014 economic report, detailing the risks to business of existing, continued, and worsening climate change.⁶⁶
- Two recent U.S. Department of Agriculture initiatives that respond to the threat of climate change.⁶⁷ Adopting a weaker alternative in the Stream Protection Rule will undermine these initiatives by worsening climate change.

⁶² See IPCC Fifth Assessment report webpage <https://www.ipcc.ch/report/ar5/>; see also IPCC, *Climate Change 2014 Synthesis Report, Summary for Policymakers* (2014), https://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf.

⁶³ Jerry M. Melillo et al., eds., *Climate Change Impacts in the United States: The Third National Climate Assessment, U.S. Global Change Research Program*, U.S. Global Change Research Program (2014), nca2014.globalchange.gov.

⁶⁴ EPA, EPA 430-R-15-004, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2013*, (Apr. 15, 2015), <http://www3.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2015-Main-Text.pdf>.

⁶⁵ James Hansen et al., *Perceptions of Climate Change*, 109 Proceedings of the National Academy of Science (Sep. 11, 2012); James Hansen et al., *Increasing Climate Extremes and the New Climate Dice*, Columbia University (Aug. 10, 2012).

⁶⁶ Kate Gordon et al., *Risky Business: The Economic Risks of Climate Change*, Risky Business Project (June 2014), http://riskybusiness.org/uploads/files/RiskyBusiness_Report_WEB_09_08_14.pdf.

⁶⁷ See U.S. Dep't of Agric., *USDA's Building Blocks for Climate Smart Agriculture & Forestry – Fact Sheet*, Off. of Comm. (undated), <http://www.usda.gov/documents/climate-smart-fact-sheet.pdf> (describing an “approach to support farmers, ranchers, and forest land owners in their response to climate change. The framework consists of 10 building blocks that span a range of technologies and practices to reduce greenhouse gas emissions, increase carbon storage, and generate clean renewable energy.”); S. Dep't of Agric., *Secretary Vilsack Announces Regional Hubs to Help Agriculture, Forestry Mitigate the Impacts of a Changing Climate*, Off. of Comm. (Feb. 5, 2014), <http://www.usda.gov/wps/portal/usda/usdahome?contentidonly=true&contentid=2014/02/0016.xml> (describing a Feb. 5, 2014 climate initiative to “address increasing risks such as fires, invasive pests, devastating floods, and crippling droughts on a regional basis, aiming to translate science and research into information to farmers, ranchers, and forest landowners on ways to adapt and adjust their resource management”).

- A recent speech by Secretary of the Interior Jewell in which she stated that the “federal coal program needs reform” and asked “[h]ow do we manage the [federal coal] program in a way that is consistent with our climate change objectives?”⁶⁸ This question is of paramount importance for the Stream Protection Rule because it will affect decisions about mining and combustion of many millions of tons of coal, in addition to releasing millions of cubic feet each day of methane.

OSMRE must also address whether the chosen alternative, and the additional coal combustion it facilitates, are in line with the goals of President Obama’s Clean Power Plan. The Clean Power Plan calls for reducing power sector emissions to 30 percent below 2005 levels by 2030.⁶⁹ Additionally, in November 2014 the President announced a joint U.S.-China agreement aimed at reducing climate pollution that calls for even more aggressively cutting net greenhouse gas emissions to 26-28 percent below 2005 levels by 2025.⁷⁰

E. OSMRE Incorrectly Assessed the Baseline No Action Alternative.

The essential foundation of a lawful and rational analysis of alternatives under NEPA is an accurate characterization of the no-action baseline. *Ctr. for Biological Diversity v. U.S. Dep’t of Interior*, 623 F.3d 633, 642-43 (9th Cir. 2010). OSMRE fails this requirement by concluding incorrectly that the destruction of streams is permissible under the current regulations that the Stream Protection Rule will replace.

The DEIS rests on the premise that the wholesale destruction of streams by valley fills and mine-throughs is permissible under the current regulations. “The No Action Alternative,” OSMRE says, “does not prohibit mining through a stream or burial with excess spoil or coal mine waste.” DEIS at ES-28. *Accord id.* at 4-51 (“Excess spoil placement into streams is allowable under longstanding interpretations of our current regulations[.]”); *id.* at ES-12 (“OSMRE and most state regulatory authorities generally have applied the 1983 SBZ rule in a manner that allows the construction of excess spoil fills, refuse piles, slurry impoundments, and sedimentation ponds in all types of streams and their buffer zones”). The current regulations, OSMRE says, allow “substantial effects of excess spoil generation on streams . . . to occur, particularly in Appalachia. . . . [This] can . . . affect biological processes directly by burying or smothering aquatic organisms or their habitats, and reducing the amount of light available for photosynthesis or activities requiring visibility. Excessive sediment reduces stream depth, which increases water temperatures and reduces the dissolved oxygen content.” *Id.* at 4-51 (citation omitted). OSMRE concludes that these impacts would continue to be lawful “[u]nder the No Action Alternative.” DEIS at ES-37.

⁶⁸ Sally Jewell, Secretary of the Interior, Address at the Center for Strategic and International Studies (Mar. 17, 2015), <http://www.c-span.org/video/?324886-1/interior-secretary-sally-jewell-remarks-energy-agenda>.

⁶⁹ Ex. II, EPA, *Fact Sheet: Clean Power Plan* (2014), <http://www2.epa.gov/sites/production/files/2014-05/documents/20140602fs-overview.pdf>.

⁷⁰ The White House, *U.S.-China Joint Announcement on Climate Change and Clean Energy Cooperation*, Off. of the Press Secretary (Nov. 11, 2014), <https://www.whitehouse.gov/the-press-office/2014/11/11/us-china-joint-announcement-climate-change>.

OSMRE is wrong. The current regulations do not allow adverse effects on streams from filling or mining through streams. In fact, the current regulations plainly and unambiguously prohibit any mining activity within 100 feet of a stream that will have an adverse effect on the environmental resources of the stream:

No land within 100 feet of a perennial stream or an intermittent stream shall be disturbed by surface mining activities, unless the regulatory authority specifically authorizes surface mining activities closer to, or through, such a stream. The regulatory authority may authorize such activities only upon finding that—

(1) Surface mining activities will not cause or contribute to the violation of applicable State or Federal water quality standards, and **will not adversely affect the water quantity and quality or other environmental resources of the stream**; and

(2) If there will be a temporary or permanent stream-channel diversion, it will comply with § 816.43.⁷¹

30 C.F.R. § 816.57(a)(1) (emphasis added). It is unlawful and irrational to use a less-protective regulation as the baseline for analysis under NEPA. *Friends of Back Bay v. U.S. Army Corps of Eng'rs*, 681 F.3d 581, 588-89 (4th Cir. 2012) (“A material misapprehension of the baseline conditions existing in advance of an agency action can lay the groundwork for an arbitrary and capricious decision.”); *Friends of Yosemite Valley v. Kempthorne*, 520 F.3d 1024, 1038 (9th Cir. 2008) (“The baseline alternative should not have assumed the existence of the very plan being proposed.”) (internal quotation marks omitted). See also *Humane Soc. of the U.S. v. Johanns*, 520 F. Supp. 2d 8, 29 (D. D.C. 2007) (holding that rulemaking did not merely perpetuate the “status quo” for purposes of NEPA because “‘status quo’ refers to the legal or regulatory status quo,” not to “whether an action, albeit legally different, will perpetuate the same effects”).

OSMRE’s failure to correctly assess the no-action alternative infects its subsequent comparative analysis of the other alternatives. For example, OSMRE’s conclusion that “all of the Action Alternatives (Alternatives 2 through 8) increase the stringency of the historic requirements that guide mining activities near streams and the placement of excess spoil and refuse,” DEIS at 4-98, rests on the erroneous premise that the current regulations allow harmful mining activities in and near streams. Because the current regulations actually prohibit adverse effects on perennial and intermittent streams from mining activities within the buffer zone, OSMRE’s assessment of alternatives 2 through 8 is erroneous and arbitrary.

The reason why the current stream buffer zone rule has coincided with widespread destruction of streams is, of course, that OSMRE and the states have failed to enforce it. But OSMRE should not adopt continued unlawful conduct and impunity as the no-action baseline. Further, a record of poor enforcement cannot justify proceeding as if harm to streams is lawful,

⁷¹ The referenced section 816.43 contains parallel language prohibiting stream diversions absent a finding that the diversion will “not adversely affect the water quantity and quality and related environmental resources of the stream.” 30 C.F.R. § 816.43(b)(1).

because a poorly enforced, protective regulation is *not* the same baseline as a regulation that does not even apply. States are under a legal obligation to enforce protective regulations, 30 U.S.C. § 1265(a), and if states fail to enforce them, SMCRA requires the Department to step in. 30 U.S.C. § 1271. More importantly, a protective regulation is enforceable by private citizens. 30 U.S.C. § 1270(a) (authorizing citizen suits); 30 U.S.C. 1276(e) (“Action of the State regulatory authority pursuant to an approved State program shall be subject to judicial review by a court of competent jurisdiction in accordance with State law”); *Bragg v. W. Virginia Coal Ass’n*, 248 F.3d 275, 297 (4th Cir. 2001) (“as part of its approved State program, West Virginia enacted a citizen suit provision that, parroting the language of its federal counterpart, gives affected individuals the right to sue in State court to compel the Director’s compliance with the West Virginia Act.”) (citing W. Va. Code § 22-3-25). By conflating a poorly enforced regulation with a regulation that does not even apply, the Department ignores the important role of private enforcement in SMCRA’s regulatory regime. *See Friends of the Earth, Inc. v. Laidlaw Env’tl. Servs. (TOC), Inc.*, 528 U.S. 167, 185 (2000) (admonishing that Congress’ determination that private enforcement is effective “warrants judicial attention and respect”).

Further, it would be arbitrary to conclude that the current stream buffer zone rule would remain poorly enforced in the future while simultaneously assuming that new protections adopted through the Stream Protection Rule will be well enforced. Certainly, OSMRE cannot assume that the enforcement of SMCRA’s minimum standards will improve without explaining what concrete steps OSMRE will take to improve enforcement.

F. OSMRE Failed to Consider the Alternative of Enforcing Current Requirements.

If OSMRE were not required to use enforcement of the current regulations as the no action baseline, OSMRE would still be obligated at least to include it among the alternatives analyzed. *Ctr. for Biological Diversity v. U.S. Dep’t of Interior*, 623 F.3d 633, 642 (9th Cir. 2010) (“The existence of reasonable but unexamined alternatives renders an EIS inadequate.”) (quoting *Friends of Southeast’s Future v. Morrison*, 153 F.3d 1059, 1065 (9th Cir. 1998)). Yet OSMRE has not.

The DEIS analyzes nine alternatives, none of which corresponds to enforcement of current 30 C.F.R. § 816.57(a)(1). 2015 DEIS at ES-28. OSMRE says that alternative 2 is the most environmentally protective, but alternative 2 allows mining activities within the buffer zone—including coal mine waste disposal and mine-throughs—that will cause adverse effects on the environmental resources of intermittent streams. Alternative 2 is therefore less protective than current 30 C.F.R. § 816.57(a)(1), which prohibits adverse effects from such activities. OSMRE also describes several alternatives that it considered but did not fully analyze. 2015 DEIS at ES-36 to ES-37. None of these correspond to enforcement of current 30 C.F.R. § 816.57(a)(1). One of the alternatives OSMRE declined to analyze includes an absolute prohibition on all surface mining activities within 100 feet of any stream, including ephemeral streams. This alternative is far stricter than the current regulation for two reasons: (1) it prohibits even mining activities that have no adverse effect on the stream and (2) it applies to all streams (ephemeral streams in addition to perennial and intermittent streams). Thus, OSMRE has failed not only to analyze the enforcement of current 30 C.F.R. § 816.57(a)(1), but even to acknowledge it as a possible alternative.

OSMRE has legal tools at its disposal to improve enforcement of current stream protections, both through this rulemaking and by use of other authorities. First, it would go a long way towards improving enforcement if OSMRE simply disavowed the counter-textual interpretations of 30 C.F.R. § 816.57(a)(1) that it has sometimes embraced, and by which states have purported to authorize mining activities within the buffer zone even when those activities promise to inflict grievous “adverse effects” on streams. Second, OSMRE could improve enforcement of 30 C.F.R. § 816.57(a)(1) by clarifying that it is a performance standard directly enforceable by citizens, not simply a permitting requirement—an issue on which there somehow has been considerable confusion, despite the fact that the provision is included in a regulatory subpart consisting of performance standards. Third, OSMRE could make a finding under 30 C.F.R. § 730.11 that state program requirements implementing 30 C.F.R. § 816.57(a)(1) are less stringent than the federal minimum standard, which would allow citizens to enforce the federal requirement directly. Fourth, OSMRE could exercise its “ten-day notice” authority under 30 U.S.C. § 1271(a) to compel enforcement of 30 C.F.R. § 816.57(a)(1) against operators that violate it. Indeed, OSMRE recently used that authority to review the consistency with 30 C.F.R. § 816.57(a)(1) of a permit issued for a surface coal mine in Virginia.⁷² Fifth, OSMRE could impose a federal regulatory program on those states that fail to “implement, enforce, or maintain” their state programs consistent with 30 C.F.R. § 816.57(a)(1). 30 U.S.C. § 1254(a)(3). Sixth, OSMRE could exercise its authority under 30 U.S.C. § 1271(b) to substitute federal enforcement in states that are failing to enforce stream-channel protections.

Because OSMRE has ample authority to improve enforcement of the stream-channel protections that are currently in force, it has an obligation under NEPA to consider doing so as an alternative to a complete overhaul of the rule’s stream-channel provisions.

IV. AT A MINIMUM, OSMRE MUST AT LEAST CLARIFY AND STRENGTHEN THE PROPOSAL WITH RESPECT TO PROTECTION OF DOWNSTREAM WATER QUALITY.

A. OSMRE Should Confirm that Section 816.42 Requires Compliance with Water Quality Standards and Is Directly Enforceable under SMCRA.

Proposed Section 816.42(a) retains the current language in 816.42 that requires compliance with “applicable water quality laws and regulations.” 80 Fed. Reg. at 44,549, 44,652. OSMRE approved the existing rule containing that requirement in 1982. 30 C.F.R. § 816.42, *approved*, 47 Fed. Reg. 47,216 (Oct. 22, 1982). At that time, OSMRE stated that this rule provides “that discharges must comply with all State and Federal water quality laws and regulations. This includes applicable water quality standards.” *Id.* at 47,220.

⁷² See generally Ex. NN, OSM, Directive 967, Oversight of State and Tribal Regulatory Programs (Jan. 31, 2011) (reviewing and updating OSMRE policies, procedures and responsibilities for oversight of state regulatory authorities); Ex. OO, OSM, Directive 968, Ten-Day Notices (affirming that “OSM must issue a [ten-day notice] . . . when it has reason to believe a violation exists,” that “permit defects are handled like any other violation,” and that “OSM must conduct a federal inspection . . . [when the regulatory authority] fails to take appropriate action”).

OSMRE should confirm that this same interpretation applies to the new rule. Specifically, OSMRE should confirm that SMCRA permittees must comply with **both** the effluent limitations in their NPDES permits **and** with all water quality standards. In its 1982 preamble, OSMRE recognized that effluent limitations and water quality standards establish two different requirements. Effluent limitations “are those parameters that must be obtained at the end of a discharge, before mixing with the waters of the receiving stream, lake, or ocean.” *Id.* Water quality standards “apply only to the waters of a stream, lake, or ocean,” and “are instream standards that cannot be exceeded.” *Id.*

OSMRE should also clarify that this rule creates a performance standard that makes water quality standards directly enforceable under SMCRA. In a recent citizen suit seeking to enforce § 816.42 and its state program counterpart, a coal company argued that those standards are not directly enforceable under SMCRA, and that so long as the company complied with its NPDES effluent limitations, it was shielded from complying with water quality standards under both the CWA and SMCRA. Ex. PP, *OVEC v. Fola Coal Co., LLC*, Civil No. 2:13-21588, Doc. 78, Fola SJ Mem., p. 15. The company argued that the language in § 816.42 supported its interpretation, because when OSMRE referred to the “applicable” standards of the CWA, OSMRE effectively incorporated the CWA permit shield and all CWA-based prerequisites to enforcing CWA-based standards under SMCRA. Ex. PP, *Id.* In effect, the company contended that if citizens could not enforce water quality standards under its NPDES permit under the CWA, then they could not enforce them as a performance standard under its SMCRA permit either. The district court in that case found that it did not need to address that argument, because the company’s NPDES permit required compliance with water quality standards, and that permit condition was enforceable by citizens under the CWA. *Id.*, Ex. QQ, Doc. 94, Mem. Op., p. 12, n. 3. However, West Virginia has sought to eliminate that NPDES permit condition, which could make the SMCRA requirement an essential alternative to enforce water quality standards.

OSMRE should clarify that the word “applicable” water quality standards means those standards that are applicable to the receiving waters for the proposed operation and that have been approved by EPA. It cannot mean that an NPDES permittee can evade compliance with water quality standards under SMCRA simply by complying with the numerical effluent limitations in its NPDES permit. Water quality standards are the “floor” of federally required compliance under the CWA, and States “may not set standards that are less stringent than the CWA’s.” *Dubois v. U.S. Dep’t. of Agric.*, 102 F.3d 1273, 1300 (1st Cir. 1996). *See also In re Entergy Nuclear Vermont Yankee Discharge Permit 3-1199*, 187 Vt. 142, 167-68 (2009) (“Federal requirements for the content of state water quality standards represent a floor”). Nor can states set standards that are less stringent than SMCRA requires. *Pennsylvania Coal Ass’n v. Babbitt*, 63 F.3d 231, 237-38 (3rd Cir. 1995). Thus, water quality standards provide the “floor” for compliance in state programs under both the CWA and SMCRA.

This issue is of enormous environmental importance, because the Appalachian coal mining states have followed a pattern and practice of issuing NPDES permits that allow mining companies to cause or contribute to violations of water quality standards. In addition, West Virginia recently enacted two statutes that attempt to remove the existing narrative condition in NPDES permits that requires coal mines to comply with those standards, and prohibit the West Virginia Department of Environmental Protection (WVDEP) from incorporating such a provision in future permits. S.B. 317, H.B. 2283, 82nd Leg., Reg. Sess. (W. Va. 2015). Through

these actions, West Virginia seeks to immunize the coal industry from its liability for impairing hundreds of streams in the state, and to quash successful citizen enforcement of permit limits needed to meet water quality standards. In May 2015, a West Virginia federal court held that, unless and until these two state statutes are approved by EPA, they have no effect under federal law and no effect on citizen suit enforcement. Ex. QQ, *OVEC v. Fola Coal Co.*, Civ. No. 2:13-cv-21588, Doc. 94, p. 12-16 (S.D. W.Va. May 29, 2015).

The two West Virginia statutes are designed to relieve coal mine operators of any obligation to address pollution from sulfates and total dissolved solids—typically measured as conductivity—from coal mine valley fills. OSMRE recognizes the serious harm caused by these two pollutants. It correctly proposes to add new requirements to monitor their concentrations downstream from mine sites, because of “concerns identified in scientific studies documenting the adverse impacts that elevated concentrations of those parameters have had on aquatic life in streams in the central Appalachian coalfields.” 80 Fed. Reg. at 44,497. “Elevated concentrations of both these [alkaline] ions and sulfate ions are highly correlated with elevated electrical conductivity in streams, which is highly correlated with the loss or absence of pollution-sensitive species of aquatic insects and fish even when in-stream habitat downstream of the mining activity is otherwise intact.” *Id.* at 44,441.

The two West Virginia statutes target the important narrative requirements contained in WVDEP’s EPA-approved water quality standards, which, among other things, prohibit industrial or other wastes “in any of the waters of the state” that cause or contribute to “[m]aterials in concentrations which are harmful, hazardous or toxic to man, animal or aquatic life” or “[a]ny other condition . . . which adversely alters the integrity of the waters of the State,” and which further provide that “no significant adverse impact to the chemical, physical, hydrologic, or biological component of aquatic ecosystems shall be allowed.” 47 C.S.R. §§ 3.2.e, 3.2.i. Other Appalachian states have similar narrative requirements in their water quality standards that protect the chemical, physical, and biological integrity of streams. 40 KAR 10:031, Section 4(1)(f) (“Total dissolved solids or specific conductance shall not be changed to the extent that the indigenous aquatic community is adversely affected”); 9 VAC 25-260-20(A) (“State waters . . . shall be free from substances attributable to . . . waste in concentrations, amounts, or combinations which . . . interfere directly or indirectly with designated uses of such water or which are inimical or harmful to human, animal, plant, or aquatic life”).

West Virginia has defiantly refused to enforce these narrative standards in multiple ways. First, West Virginia has refused to accept the virtually unanimous scientific consensus that elevated conductivity causes stream impairment. In 2011, EPA finalized a guidance document (approved by its Scientific Advisory Board) identifying ionic pollution from coal mines as a major source of harm to streams across Central Appalachia, and recommending a benchmark limit for conductivity of 300 $\mu\text{S}/\text{cm}$. EPA, *A Field-Based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams* (2011). EPA’s Benchmark establishes that when instream conductivity exceeds a level of 300 microsiemens per centimeter ($\mu\text{S}/\text{cm}$), there is a 59 percent likelihood of stream impairment (a violation of the narrative water quality standard) and at 500 $\mu\text{S}/\text{cm}$, there is a 72 percent likelihood. Benchmark at A-36. All of the peer-reviewed scientific studies published since EPA’s Benchmark was issued have supported its findings. OSMRE cites and relies on the EPA Benchmark and the supporting scientific studies. 80 Fed. Reg. at 44,441.

Rather than following EPA's Benchmark and setting the recommended limit in NPDES permits for coal mines, West Virginia responded by issuing its own "Permitting Guidance for Surface Coal Mining Operations to Protect West Virginia's Narrative Water Quality Standards." That West Virginia guidance rejected EPA's recommended effluent limits on conductivity in favor of ineffective "best management practices." West Virginia also vigorously opposed a citizen challenge seeking to secure effluent limits on conductivity in a NPDES permit for a coal mine, eventually successfully overturning a ruling of its Environmental Quality Board on that issue in the state supreme court. *Sierra Club v. Patriot Min. Co.*, 2014 WL 2404299 (W. Va. 2014).

Second, in 2012, the West Virginia legislature similarly sought to defy federal law and protect the coal industry by weakening existing state laws implementing the Clean Water Act—including a state regulation establishing the following "condition[] appl[icable] to all WV/NPDES permits": "The discharge or discharges covered by a WV/NPDES permit are to be of such quality so as not to cause violation of applicable water quality standards." *Ohio Valley Envtl. Coal, Inc. v. Marfork Coal Co.*, 966 F. Supp. 2d 667, 671 (S.D.W. Va. 2013) (citing W. Va. Code R. § 47-30-5.1.f). The legislature passed SB 615, which sought to modify the Clean Water Act's permit shield so that coal mines would be shielded from enforcement if they complied with numeric effluent limitations alone, even if they violated the foregoing narrative permit condition requiring compliance with water quality standards. A federal court found SB 615 to be federally unenforceable. *Id.*

Third, in 2012, in response to another recently passed state law, WVDEP abandoned its established stream assessment methodology and refused to use that methodology to list biologically impaired streams on its § 303(d) list. In 2013, EPA's Region 3 Office disapproved that action, applied the state's established methodology, and restored those streams to the list.

After those state actions were rebuffed, a West Virginia federal district court held in three citizen enforcement cases that coal mines violated the narrative permit condition in their NPDES permits by discharging high levels of ionic chemicals that have greatly increased stream conductivity and caused biological impairment. *OVEC v. Elk Run Coal Co.*, 24 F. Supp. 3d 532 (S.D.W. Va. 2014); *OVEC v. Fola Coal Co.*, 82 F. Supp. 3d 673 (S.D.W. Va. 2015); *OVEC v. Fola Coal Co.*, 2015 WL 4772351 (S.D. W. Va. Aug. 12, 2015). In all three cases, the court applied the same standard of impairment that EPA used in 2013 to restore streams to the 303(d) list. 24 F. Supp. 3d at 556; 82 F. Supp. 3d at 679-681; 2015 WL 4772351 at *3 n. 6. In addition, in all three cases the court deferred to EPA and applied EPA's Benchmark for protecting stream life from harmful levels of conductivity. 24 F. Supp. 3d at 559 ("The Court will thus properly defer to EPA's determination" in the Benchmark); 82 F. Supp. 3d at 684 ("the Court will continue to defer to the analysis and conclusions reached by the EPA"); 2015 WL 4772351 at *6 ("EPA's Benchmark must be accorded deference"). Environmental plaintiffs have three additional citizen suits currently pending that seek to enforce the narrative water quality standards under both the CWA permit condition and the SMCRA rule requiring compliance with water quality standards. *OVEC v. Fola Coal Co.*, Civ. No. 2:15-1371 (S.D.W. Va.); *OVEC v. Hobet Mining, LLC*, Civ. No. 3:15-cv-4101 (S.D.W. Va.); *OVEC v. Pritchard Mining Co., Inc.*, Civ. No. 2:15-cv-12554 (S.D.W. Va.).

The history of coal mine regulations in West Virginia demonstrates that compliance with water quality standards has been a consistent requirement under both the CWA and SMCRA. EPA approved the West Virginia NPDES program amendment requiring compliance with those standards in 1985 when West Virginia consolidated its CWA and SMCRA authority over mining permittees in one division of a state agency. 50 Fed. Reg. 28,202 (July 11, 1985). As a result, the state's CWA rule requiring compliance with water quality standards became consistent with the SMCRA rule that also requires compliance with water quality standards. "[T]he language concerning water quality standards may have been inserted into the [West Virginia] NPDES rules so that those rules would be consistent with the state's surface mining regulations, which were already in effect." *OVEC v. Fola Coal Co.*, 2013 WL 6709957, at *16 (S.D.W.Va. 2013); see also *Marfork*, 966 F. Supp. 2d at 683-84.

OSMRE has an important role to play in this controversy, and the stream protection rule is the best way to address and resolve it. Section 816.42 must reaffirm the fundamental requirement that compliance with water quality standards is a consistent requirement under both the CWA and SMCRA, and those standards are directly enforceable under SMCRA as a performance standard.

Recommended change to § 816.42(a): Discharges of water from surface mining activities and from areas disturbed by surface mining activities must be made in compliance with all applicable water quality laws, standards, and regulations, including the effluent limitations established in the National Pollutant Discharge Elimination System permit for the operation under section 402 of the Clean Water Act, 33 U.S.C. § 1342.

B. OSMRE Should Confirm that Sections 816.71(a)(7) and 816.57(b) Require Compliance with Water Quality Standards and Are Directly Enforceable under SMCRA.

Proposed Section 816.71(a)(7) states that excess spoil must be placed in a manner that will "[e]nsure that the fill will not cause or contribute to an exceedance of any applicable water quality standards." 80 Fed. Reg. at 44,556, 44,661. For the same reasons that we have given above relating to the similar requirement in § 816.42, OSMRE should confirm that this section requires compliance with water quality standards, and that the placement of excess spoil that subsequently results in a violation of water quality standards is a violation of a directly enforceable performance standard under SMCRA. For example, such a violation could occur if the water discharged from the base of the fill contains selenium concentrations in excess of water quality standards, or alkaline mine drainage causing downstream biological impairment. To clarify its intent, OSMRE should revise proposed 816.71(a)(7) to eliminate reference to the "manner" in which spoil is placed, as such language could be misinterpreted to mean that this provision applies only to excess spoil fills that are poorly designed or constructed, rather than reaching all excess spoil fills that have unacceptable effects on water quality. OSMRE should clarify its intent by converting proposed 816.71(a)(7) into a separate paragraph (b) providing, "You must ensure that excess spoil placement does not cause or contribute to an exceedance of any water quality standards."

OSMRE should also clarify that the same requirement applies as a directly enforceable performance standard when operators mine through or divert streams. OSMRE should add the

same language given above to proposed Section 816.57(b). OSMRE should also delete the prefatory language in 816.57(b) about what the operator is not required to achieve. Such non-operative language is more appropriately confined to the rule preamble. Attempting to explain in the rule itself what is not required risks conflict with the affirmative requirements of the subparagraph and has serious potential to generate confusion for regulators, operators, and the public.

Recommended change to § 816.71: Delete 816.71(a)(7) and insert a new 816.71(b) that provides: You must ensure that excess spoil placement does not cause or contribute to an exceedance of any water quality standards.

Recommended change to § 816.57(b)(2)(ii)(B): The biological condition of the restored stream must be adequate to support the uses of that stream segment that existed before mining and it must not preclude attainment of the designated uses of that stream segment under section 101(a) or 303(c) of the Clean Water Act before mining or cause or contribute to an exceedance of any water quality standards.

C. OSMRE Should Interpret the SMCRA Savings Clause to Allow Direct Enforcement of Water Quality Standards under SMCRA.

The savings clause in Section 702(a) of SMCRA provides that “[n]othing in this Act shall be construed as superseding, amending, modifying, or repealing” the Clean Water Act, any rule or regulation adopted under the Clean Water Act, or any state laws enacted pursuant to the Clean Water Act. 30 U.S.C. § 1292(a). OSMRE mentions this provision several times in the proposed rule, but not in the context of § 816.42’s requirement to comply with water quality standards.

The coal industry has relied on this savings clause to argue that § 816.42 is unenforceable in situations where there is no applicable and directly enforceable CWA requirement to comply with water quality standards. In that situation, it argues that § 816.42 is more stringent than CWA and therefore negated by the savings clause. The Sixth Circuit recently addressed this argument and reached that conclusion. *Sierra Club v. ICG Hazard, LLC*, 781 F.3d 281, 291 (6th Cir. 2015) (“To hold, in connection with the very same selenium discharges, that ICG is in compliance with Kentucky water quality-based effluent limitations for purposes of the CWA but in violation of those same water quality standards under the Surface Mining Act would create an inconsistency or conflict in regulatory practice, in direct contravention of § 702(a)(3) [30 U.S.C. § 1292(a)(3)].”). As we explain below, we believe that this case is wrongly decided. Unless OSMRE addresses and clarifies this issue, courts may hold that the proposed § 816.42(a) is also made inoperative by the savings clause.

If that occurred, the stream impairment caused by mining discharges could be irreparable. West Virginia has never established any effluent limitations for any ionic chemicals in NPDES mining permits, and it has given no indication that it ever will, notwithstanding the fact that every permit that it issues for a large-scale surface mine with valley fills will likely cause biological impairment and violations of narrative water quality standards. The evidence of WVDEP’s concerted efforts to avoid the implementation of narrative water quality standards is pervasive. WVDEP appealed an adverse ruling of reasonable potential in the *Patriot* case. It unsuccessfully sued to overturn EPA’s Benchmark. *Nat’l Mining Ass’n v.*

McCarthy, 758 F.3d 243 (D.C. Cir. 2014). It refused to identify conductivity as a cause of biological impairment in any impaired stream on its 303(d) list. It refused to adopt any TMDL relating to ionic chemicals or conductivity. It refused to apply its stream assessment methodology to biological impairment due to conductivity. As the court stated in *Elk Run*, this is an “abdication of responsibility by the WVDEP.” 24 F. Supp. 3d at 549. “To credit the WVDEP’s current position that there is no methodology for assessing West Virginia’s biological narrative water quality standards . . . —leading to no enforcement whatsoever—would be to . . . fail to enforce the CWA.” *Id.* And West Virginia recently enacted two statutes that seek to undermine and evade two federal court rulings that, in reliance on EPA’s own decisions, found that mines are violating its narrative water quality standards. In these circumstances, there is no question that West Virginia has no intention of ever applying or enforcing its EPA-approved and federally-enforceable narrative water quality standards for biological impairment. Indeed, it wants to delete the existing NPDES requirement precisely *because* there are known water quality violations and *because* citizen enforcement of those violations has been effective. West Virginia is engaged in a deliberate and sustained effort to prevent enforcement of federally enforceable water quality standards because it wants to protect the mining industry while escaping both citizen enforcement and EPA oversight.

As a legal matter, OSMRE must not allow this to happen. It should clarify that § 816.42 imposes an independent requirement to comply with water quality standards, and that this requirement is not inconsistent with the CWA, even if state-issued NPDES permits do not contain a condition requiring compliance with water quality standards. Water quality standards provide the “floor” for compliance with the CWA. 33 U.S.C. § 1311(b)(1)(C). States cannot issue NPDES permits with conditions that fall below that floor. *Id.* § 1370. Nor can they backslide from existing requirements and fall below that floor. *Id.* §§ 1342(o)(3) (anti-backsliding), 1313(d)(4) (anti-degradation). Since water quality standards provide the “floor” for compliance under the CWA, a SMCRA rule requiring compliance with those standards cannot be inconsistent with the CWA and cannot violate SMCRA’s savings clause.

Three decades ago, OSMRE and EPA reached this same conclusion. SMCRA provides that regulations on environmental protection standards cannot be approved by OSMRE unless it has “obtained the written concurrence” of EPA “with respect to those regulations...which relate to air or water quality standards promulgated under the” Clean Water and Clean Air Acts. 30 U.S.C. § 1251(a)(B). When it enacted this section, Congress was concerned about direct conflicts between air or water quality standards, and it believed that the EPA concurrence procedure would be sufficient to address such conflicts. *See* H. Rep. No. 95-218, at 142 (1977). When OSMRE issued § 816.42 in 1982, EPA expressly “concurred in the issuance of this regulation.” 47 Fed. Reg. 47,216, 47,221.

OSMRE also threatened to terminate West Virginia’s state SMCRA program by “June 15, 1982, unless West Virginia submits by that date copies of enacted regulations requiring that all water leaving the permit area meet Federal and State water quality statutes, regulations, standards or effluent limitations.” 47 Fed. Reg. 20,119, 20,122 (May 11, 1982). In September 1982, after West Virginia submitted “regulations to require that water leaving the permit area will meet all applicable Federal and State water quality standards for the river, stream or drainway into which it is discharged,” OSMRE removed that threat and approved that portion of West Virginia’s program. 47 Fed. Reg. 39,821 (Sept. 10, 1982). EPA concurred that these West

Virginia regulations were consistent with the CWA. *Id.* at 39,822; *see also* 50 Fed. Reg. 28,324, 28,337 (July 11, 1985) (“EPA concluded that the West Virginia program demonstrates the legal authority, administrative capability, and technical conformity to the Federal regulations necessary to maintain water quality standards promulgated under the authority of the Clean Water Act”). Thus, both OSMRE and EPA have previously found that a requirement to comply with water quality standards is consistent with the CWA and does not violate the savings clause. Indeed, OSMRE has stated that “Congress intended that surface coal mining and reclamation operation should not proceed unless all applicable water quality standards are achieved and maintained.” 44 Fed. Reg. 14,902, 14,927 (Mar. 13, 1979). OSMRE should therefore confirm in its final rule that SMCRA’s savings clause allows direct enforcement of water quality standards under SMCRA.

D. OSMRE’s Standard in Sections 701.5, 780.21(a)(8), 780.24(b)(iii), 780.28(b)(2), 784.21(b)(8), 784.24(b)(iii), 784.28(b)(2), 816.36(d)(2), 816.57(b)(2), 816.71(a)(6), 816.81(b)(7), 817.36(d)(2), 817.57(b)(2), 817.71(a)(6), and 817.81(b)(7) for Protecting Stream Uses from Material Damage Should Be Clarified and Strengthened.

OSMRE’s standard for protecting streams from material damage is based on the principle that material damage only occurs if mining impacts are sufficient to “preclude any designated surface-water use under sections 101(a) and 303(c) of the Clean Water Act or any existing or reasonably foreseeable use of surface water or groundwater outside the permit area.” 80 Fed. Reg. at 44,474. This language or language similar to it is contained in Sections 701.5, 780.21(a)(8), 780.24(b)(iii), 780.28(b)(2), 784.21(b)(8), 784.24(b)(iii), 784.28(b)(2), 816.36(d)(2), 816.57(b)(2), 816.71(a)(6), 816.81(b)(7), 817.36(d)(2), 817.57(b)(2), 817.71(a)(6), and 817.81(b)(7). This standard should be clarified and strengthened in two respects.

1. Material Damage Should Be Defined to Include Impacts that Cause or Contribute to Violations of Water Quality Standards.

OSMRE rejects the view that “any exceedance of water quality standards or effluent limitations, no matter how minor and no matter what the cause, would constitute material damage to the hydrologic balance outside the permit area.” 80 Fed. Reg. at 44,474. As a result, under OSMRE’s proposed definition in § 701.5, material damage is untethered to violations of water quality standards. This is an unjustified reversal of the 1983 rule. The preamble to OSMRE’s 1983 buffer zone rule stated that “OSM has not established fixed criteria [for defining “material damage to the hydrologic balance outside the permit area”] **except for those established under [30 C.F.R.] §§ 816.42 and 817.42 related to compliance with water-quality standards and effluent limitations**” (emphasis added). 48 Fed. Reg. 43,973 (Sept. 26, 1983). In addition, the only judicial construction of the 1983 rule supports the conclusion that regulatory authorities must treat a violation of any applicable water quality standard as “material damage to the hydrologic balance.” *Ex. B, Ohio River Valley Environmental Coalition, Inc. v. Castle*, No. 3:00-CV-58 (S.D.W.Va. June 14, 2000) (*Memorandum Opinion and Order* at 13) (“Given the use of the term ‘material damage’ and its context in the statute, Congress intended that [the West Virginia state regulatory authority under SMCRA] set out in writing the current condition of the water’s quality and the limits and ranges above which damage will be considered

material. Those limits must include the State’s water quality standards applicable to the hydrologic resources found within the cumulative impact area.”).

OSM’s stated view misunderstands the nature of water quality standards formulated under the Clean Water Act. Every numeric water quality standard and water quality based effluent limitation is formulated with three factors in mind: (1) **magnitude** (the allowable level of pollutant (or pollutant parameter) – usually expressed as a concentration); (2) **duration** (the period, if any, over which the in-stream concentration must be averaged for comparison with criteria concentrations); and (3) **frequency** (how often the criteria may be exceeded). NPDES Permit Writers’ Manual, EPA-833-K-10-001 (Sept. 2010) at 6-5. Thus, there are no “minor” exceedences of numeric water quality standards because those standards are formulated in a manner that overlooks *de minimis* exceedences of pollutant concentration limits that do not persist long enough or recur frequently enough to cause unacceptable harm to the waterbody in question. Simply put, each numeric water quality standard represents EPA’s considered, science-based judgment of the dividing line between tolerable and unacceptable pollution of a water resource.

It would be wholly inconsistent with the Clean Water Act for OSM or state regulators acting under SMCRA to substitute their judgment for EPA’s concerning the tolerable amount of mining-related pollution in any surface water resource at either the design or operational stage. To the contrary, OSM’s duty to refrain from construing its authority under SMCRA in any way that supercedes or modifies the Clean Water Act, 30 U.S.C. § 1292(a)(3), bars the agency from construing “material damage to the hydrologic balance” in a way that tolerates **any** excursion from numeric water quality standards – or narrative ones, as well. Congress has mandated that CWA regulators draw the line between tolerable and unacceptable pollutant loads in the Nation’s surface waters. Conversely, Congress clearly did not intend to allow State SMCRA regulators or OSM’s own personnel to ignore the law and science on which the CWA water quality standards are based and instead formulate their own judgments as to when pollution levels are too damaging to tolerate.

OSM’s failure to define material damage in terms of **any excursion** from applicable numeric water quality standards makes OSM’s proposed rule inconsistent with the Clean Water Act. States are required to list waters as impaired and place them on the biennial § 303(d) List if water quality requirements “are not stringent enough to implement any water quality standards applicable to such waters.” 40 C.F.R. § 130.7(b)(1). Thus, when mining impacts cause or contribute to violations of water quality standards, the impaired streams must be listed under § 303(d). OSM’s definition of material damage fails to capture all of these impaired streams and therefore is inconsistent with the CWA. OSM should therefore amend the proposed definition of “material damage to the hydrologic balance outside the permit area” in § 701.5 appropriately.

Recommended change to definition of “material damage to the hydrologic balance outside the permit area” in § 701.5: Add a new subparagraph (c) that provides: (c) Exceed applicable State or Federal water quality standards or criteria, including applicable State groundwater quality standards.

2. **Material Damage Should Be Defined to Include Impacts that Partially or Completely Impair or Significantly Degrade an Existing or Designated Use.**

OSMRE does not define when a “preclusion” of surface water uses occurs. Neither section 101(a) nor section 303(c) of the CWA speaks of “precluding” a use. Section 101(a)(2) sets a goal of “water quality which provides for the protection and propagation of fish, shellfish, and wildlife.” 33 U.S.C. § 1251(a)(2). Section 303(c)(2)(A) requires States to adopt water quality standards that “protect” designated uses. *Id.*, § 1313(c)(2)(A). Section 303(c)(2)(B) requires States to adopt criteria for toxic pollutants “as necessary to support” designated uses. *Id.*, § 1313(c)(2)(B). EPA’s antidegradation regulation provides that existing uses “shall be maintained and protected.” 40 C.F.R. § 131.12(a)(1). “This means that the full use must continue to exist even if some change in water quality may be permitted.” EPA, Water Quality Standards Regulation, 48 Fed. Reg. 51,400, at 51,403 (Nov. 8, 1983). “At a minimum, state water quality standards must satisfy these conditions.” *PUD No. 1 of Jefferson Cnty. v. Washington Dep’t of Ecology*, 511 U.S. 700, 705 (1994). Thus, neither the CWA nor the implementing regulations are framed in terms of “precluding” an existing or designated use. The ordinary meaning of “preclude” is to prevent something from happening or make it impossible to happen. By that standard, “precluding a use” could mean that it must be shown that it is impossible for any fish to propagate in a stream. If so, that standard would be inconsistent with the CWA mandate to maintain and protect each existing use.

In the section of its Water Quality Standards Handbook dealing with protection of existing uses, EPA uses a different standard than preclusion. EPA states that maintenance and protection of existing uses is “the absolute floor of water quality in all waters of the United States.” Ex. RR, Handbook, § 4.4. “If a planned activity will foreseeably lower water quality to the extent that it no longer is sufficient to protect and maintain the existing uses in that water body, such an activity is inconsistent with EPA’s antidegradation policy, which requires that existing uses are to be maintained.” *Id.* For aquatic life/wildlife uses:

No activity is allowable under the antidegradation policy which would ***partially or completely eliminate*** any existing use whether or not that use is designated in a State’s water quality standards. The aquatic protection use is a broad category requiring further explanation. Non-aberrational resident species must be protected, even if not prevalent in number or importance. Water quality should be such that it results in no mortality and no significant growth or reproductive impairment of resident species. Any lowering of water quality below this full level of protection is not allowed.

Id. § 4.4.2 (emphasis added). In addition, EPA states that physical modifications to a waterbody cannot result in “significant degradation” to the aquatic ecosystem. *Id.* § 4.4.3. To be consistent with the CWA, then, OSMRE should replace the word “preclude” with “partially or completely eliminate or significantly degrade.” Alternatively, OSMRE should define “preclude” to mean “partially or completely eliminate or significantly degrade.” This would also make the rule consistent not only with federal anti-degradation rules under the CWA, 40 C.F.R. § 131.12(a)(1), but also with the standard for listing streams as impaired under § 303(d)(1)(A), which requires states to identify waters which “are not stringent enough to implement any water quality standard

applicable to such waters.” 33 U.S.C. § 1313(d)(1)(A). That language similarly requires states to maintain and protect existing water quality standards and uses.

OSMRE defines “existing uses” as “those uses in existence at the time of the preparation of the permit application.” 80 Fed. Reg. at 44,475. That definition is potentially less protective than, and therefore inconsistent with, EPA’s definition of “existing uses,” which are “those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards.” 40 C.F.R. § 131.3(e). For example, if the permit application is prepared in 2016, and the affected watershed only had mining activity after 1975, the existing use in 2016 would likely be more impaired than the existing use prior to mining in 1975. Preserving the “existing uses” at the time of the new 2016 mining application may only protect the existing level of impairment caused by prior mining in the same watershed. EPA’s definition provides the minimum scope of protection required by the Clean Water Act and must be incorporated into OSMRE’s rule.

OSMRE invites comment on whether it should replace the term “existing uses” with “premining uses” for purposes of clarity. 80 Fed. Reg. at 44,475/1. We believe that “premining uses” is the better term, because hundreds of miles of streams in Appalachia are already impaired by mining. OSMRE’s mandate to prevent material damage to the hydrologic balance outside the permit area demands that it extend protection to all water sources impaired by mining since SMCRA was enacted in 1977. Using the term “premining uses” is also consistent with OSMRE’s proposal that previously degraded stream segments must be improved “to the fullest extent possible” as part of new stream restorations, “not just restored to the condition that existed before the current mining operation.” 80 Fed. Reg. at 44,554/2.

Recommended change to definition of “material damage to the hydrologic balance outside the permit area” in § 701.5: Revise subparagraph (a) to read as follows: Partially or completely eliminate or significantly degrade any designated use under sections 101(a) or 303(c) of the Clean Water Act or any existing or reasonably foreseeable use of surface water or groundwater outside the permit area;

V. OSMRE SHOULD STRENGTHEN REQUIREMENTS IN § 816.38 TO AVOID CREATION OF ACID-FORMING AND TOXIC-FORMING MATERIALS.

In proposed § 816.38, OSMRE would require permittees to “use the best technology currently available to handle acid-forming and toxic-forming materials in a manner that will avoid the creation of acid or toxic mine drainage into surface water and groundwater.” 80 Fed. Reg. at 44,651. This proposed rule does not fully carry out the avoidance requirement in § 515(b)(10) of SMCRA. It requires avoidance only to the extent that the permittee must “use the best available technology.” The statute does not condition avoidance in that manner, and instead requires avoidance unconditionally. That is the holding in *Rith Energy, Inc. v. OSM*, 111 IBLA 239 (IBLA 1989). As OSMRE acknowledges, that case “upheld OSMRE’s refusal to approve a mining plan that sought to minimize, rather than avoid, [Acid Mine Drainage].” 80 Fed. Reg. at 44,479. In that case, the Interior Board of Land Appeals (IBLA) agreed with OSMRE 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

at 249. By only proposing to require avoidance by using best available technology, OSMRE is repeating the error the IBLA rejected in *Rith*, and is setting an illegal standard based on minimization rather than avoidance. Requiring use of the best available technology is effectively the same as requiring only minimization, because that technology as a practical matter may not achieve complete avoidance. That result is prohibited by SMCRA.

Recommended change to § 816.38: You, the permittee, must handle acid-forming and toxic-forming materials in a manner that will avoid the creation of acid or toxic mine drainage into surface water and groundwater.

Recommended change to § 773.15(n): Add a new subparagraph (3) as follows: The proposed operation will minimize the disturbances to the prevailing hydrologic balance at the mine-site and in associated offsite areas by avoiding the creation of acid or toxic mine drainage into surface water and groundwater.

VI. OSMRE SHOULD REQUIRE RESTORATION OF BOTH THE FORM AND ECOLOGICAL FUNCTIONS OF EPHEMERAL STREAMS.

Existing SMCRA regulations provide no protection for ephemeral streams. OSMRE recognizes that “ephemeral streams are an important component of headwaters streams” and its proposed rule includes some protections for ephemeral streams. 80 Fed. Reg. at 44,451. OSMRE invites comments on whether it should provide equal protection for all streams, regardless of whether they are ephemeral, intermittent, or perennial. *Id.* We believe it should. EPA’s recent report on the connectivity of waters of the United States found that “[a]ll tributary streams, including perennial, intermittent, and ephemeral streams, are physically, chemically, and biologically connected to downstream rivers via channels and associated alluvial deposits where water and other materials are concentrated, mixed, transformed, and transported.” EPA, *Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence* ES-2 (2015). Assigning less protection to ephemeral streams will encourage permittees to downgrade higher order streams into that category to try to reduce mitigation costs. That is already occurring under § 404 of the CWA. For example, the applicant classified only 200 feet of streams in the Spruce No. 1 mine area as perennial, while EPA found that over 20,000 feet of streams had been misclassified as ephemeral or intermittent when in fact they were perennial. Ex. I, EPA, *Spruce No. 1 Mine Final Determination*, (Jan. 2011), Appendix 3, pp. 3-6.

OSMRE proposes to require restoration of stream form only for ephemeral streams, not restoration of ecological functions. DEIS at ES-21, ES-23, ES-30, 4-97 to 4-98. OSMRE also proposes to limit the definition of the scope of material damage to perennial and intermittent streams. 80 Fed. Reg. at 44,588 (§ 701.5). However, as OSMRE recognizes, ephemeral streams serve important functions in watersheds, such as production and transport of food resources. 80 Fed. Reg. at 44452; DEIS at C-2. Ephemeral streams also provide biological connectivity to intermittent and perennial streams. DEIS at C-2. “Intermittent and ephemeral streams are critical to biogeochemical processes that have watershed-scale impacts.” Ex. SS, Emily S. Bernhardt and Margaret A. Palmer, *The environmental costs of mountaintop mining valley fill operations for aquatic ecosystems of the Central Appalachians*, Ann. N.Y. Acad. Sci. 1223: 39–57, at 51 (2011). For example, one study found that coarse benthic organic matter “was greatest in the

natural ephemeral streams and least in the constructed ephemeral channels on valley fills.” EPA, *Effects of Mountaintop Mines and Valley Fills on Aquatic Ecosystems of the Central Appalachian Coalfields* 71 (2011); DEIS at 4-94. Some ephemeral streams also “provide unique habitat for a diverse population of insects and other animals, from macroinvertebrates to salamanders.” Ex. SS, Bernhardt and Palmer 52 (2011); EPA 23, 87 (2011); DEIS at C-19. Fifty-nine percent of the streams in the U.S. are ephemeral or intermittent. DEIS, p. 3-134. OSMRE provides no scientific reason for not restoring their functions. Failure to do so would mean that ephemeral streams could obtain failing scores on stream condition indices and be listed as impaired on § 303(d) lists due to mining activities, without any requirement that they be restored to pre-mining functional conditions. The failure to restore those functions would likely result in violations of water quality standards and in significant degradation to waters of the U.S., in violation of the § 404(b)(1) Guidelines at 40 C.F.R. § 230.10(b)(1) and (c).

Recommended change to § 701.5: Material damage to the hydrologic balance outside the permit area means any adverse impact from surface coal mining and reclamation operations or from underground mining activities, including any adverse impacts from subsidence that may occur as a result of underground mining activities, on the quality or quantity of surface water or groundwater, or on the biological condition of an ephemeral, perennial or intermittent stream, that would—

VII. OSMRE’S PROPOSED METHODS FOR REMEDYING DISCHARGES OF ELEVATED CONDUCTIVITY FROM MINES HAVE NO SCIENTIFIC BASIS.

The proposed rule does not provide a scientific basis for its assertions that it is feasible to counteract increased conductivity from mining discharges by land management practices. Absent such a basis, OSMRE’s design for avoiding expensive treatment of long-term pollution discharges will fail. The proper course instead is not to permit such mining activities in the first place.

OSMRE recognizes that elevated concentrations of alkaline ions in mine drainage cause increased stream conductivity, which is highly correlated with biological impairment downstream from mine sites. 80 Fed. Reg. at 44,441. OSMRE also recognizes that this impairment persists for many years, and studies “have not found any ecologically significant improvement in electrical conductivity with either time or the extent of reforestation of the minesite.” *Id.* OSMRE proposes to remedy this problem in three ways: (1) by “requiring that backfilling techniques consider impacts on electrical conductivity,” (2) by “requiring that excess spoil fills be constructed in compacted lifts,” and (3) by “incorporating elements of the Forestry Reclamation Approach into our soil reconstruction and revegetation rules.” *Id.*

OSMRE cites no scientific evidence that any of these three methods is likely to be successful. The first method is purely procedural. Section 780.28(d)(2)(v) “would require that the applicant demonstrate that the excess spoil fill or coal mine waste disposal facility has been designed in a manner that will not cause or contribute to a violation of water quality standards or result in the formation of toxic mine drainage.” 80 Fed. Reg. at 44,518. OSMRE states that this requirement “is intended to ensure that discharges to surface water or groundwater from the excess spoil fill or coal mine waste disposal facility would not have a substantial adverse impact

on water quality or aquatic biota in receiving streams.” *Id.* OSMRE offers no evidence that fill design has any effect on water quality.

OSMRE’s second method for reducing conductivity relies on compacted lifts of fill. While this practice is beneficial and should be required, it has been a standard practice and requirement for many years, and will not prevent elevated conductivity below valley fills. OSMRE was one of four agencies that produced the 2005 Mountaintop Mining/Valley Fill Programmatic Environmental Impact Statement (MTM/VF PEIS). It states that “[h]ead-of-hollow and valley fills must be constructed in lifts of spoil no greater than four feet in thickness.” Ex. TT, MTM/VF PEIS at III.K-2. OSMRE regulation at § 816.71(e)(2) provides that “[e]xcess spoil shall be transported and placed in a controlled manner in horizontal lifts not exceeding 4 feet in thickness; [and] concurrently compacted as necessary to ensure mass stability and to prevent mass movement during and after construction.” OSMRE’s method for reducing conductivity is based merely on eliminating the regulatory language allowing states to grant an **exception** to this requirement. 80 Fed. Reg. at 44,559. OSMRE cites no evidence that these exceptions are widespread and can account for the discharges of dissolved solids and resulting elevated conductivity at virtually every mine site with valley fills. OSMRE’s theory that the exceptions are a major cause of the problem is unproven and implausible. OSMRE also cites no evidence to support its statement that “[i]ncreased compaction also should reduce discharges of total dissolved solids and other parameters of concern, thus minimizing the adverse impacts on fish, wildlife, and related environmental values . . .” *Id.* at 44,561. Given that compaction is already required by existing OSMRE rules, and recently constructed mines such as Fola’s 4A Surface Mine in West Virginia (first permitted after 2001) have had discharges with elevated conductivity for the past decade despite using compaction, there is no plausible support for that statement. *See* Ex. UU, *OVEC v. Fola Coal Co., LLC*, Civil No. 2:13-5006 (S.D.W.Va.), Stipulation of the Parties pp.12-25, March 4, 2015, ECF No. 53. Special condition 23 in Fola’s NWP 21 authorization for that mine provided that “Compaction criteria must be established. Shot rock must be processed to reduce the lift thickness to ensure adequate compaction. Compaction must be tested as each lift progresses upward.” Ex. WW, USACE, NWP 21 authorization for Fola Surface Mine No. 4A, Special Conditions, p. 8 (Oct. 24, 2003). Despite that requirement, conductivity in Fola’s mine discharges is elevated and downstream waters are biologically impaired.

OSMRE’s third method for reducing conductivity is based on the Forestry Reclamation Approach for soils and vegetation. Specifically, OSMRE cites a single unpublished master’s thesis to support the claim that this Approach can reduce conductivity by 50 percent. 80 Fed. Reg. at 44,441, n. 33, citing Kenton, “Influence of Spoil Type on Afforestation Success and Hydrochemical Function on a Surface Coal Mine in Eastern Kentucky” (2014). However, the experiment in that thesis did not involve valley fills. Instead, three spoil-type treatments (brown weathered sandstone, gray unweathered sandstone, mixed sandstone, and shale) were end-dumped in 0.4-ha plots, and the runoff from those experimental plots was monitored. Kenton (2014). at 30. The results showed that the brown weathered sandstone generated less conductivity than the other soil types. *Id.* at 59-60. Based on those results, Kenton recommended using brown sandstone as the soil medium on the surface. That recommendation has little value for valley fill construction. Valley fills cannot feasibly be constructed solely of brown sandstone at every site if that is not what the local geology contains. The Forestry Reclamation Approach

may be beneficial, but it will not prevent mountaintop removal mining operations from causing damaging levels of conductivity.

The reality is that increased conductivity is a function of the volume of exposed rock in the valley fill. During mining, the overlying rock layers are blasted apart to reach coal seams, and that rock is placed in valley fills. Water infiltrates into the fill and contacts the exposed rock. The water combines with the pyrite in the rock to form sulfuric acid, which generates increased dissolved solids, which causes elevated conductivity. *See* Ex. VV, Bernhardt et al., *How Many Mountains Can We Mine? Assessing the Regional Degradation of Central Appalachian Rivers by Surface Coal Mining*, *Envtl. Sci. & Tech.* 46(15):8115–8122 at 8115 (2012). OSMRE admits that “[p]recipitation may infiltrate and percolate through the pile, which can result in an increase in the concentration of total dissolved solids leaving the site.” 80 Fed. Reg. at 44,548. OSMRE’s methods do nothing to reduce the volume of rock exposed to that infiltration.

OSMRE also proposes to reduce infiltration by requiring placement of a low permeability layer below the lowest coal seam mined, thereby creating an aquitard to reduce infiltration of water into the valley fill and supposedly reducing generation of dissolved solids. 80 Fed. Reg. at 44,547. There is no evidence that this has ever been attempted, or that it will work. OSMRE cites no studies or qualified expert opinions as to its effectiveness. In any event, if the aquitard does not enclose the entire surface of the valley fill, water will still infiltrate into the crushed rock layers between the surface and the lower aquitard, thereby generating alkaline mine drainage.

OSMRE’s failure to demonstrate the feasibility of restoring mined streams, recreating mined streams, and preventing discharges with high conductivity—in combination with its failure to protect streams from direct damage in the first place—means that OSMRE cannot achieve its announced goal of preventing long-term environmental harm to streams. OSMRE acknowledges that SMCRA requires permittees to prevent material damage, protect existing uses, comply with water quality standards, and avoid the long-term costs of treating pollution. Proposed Section 773.15(n) “would require that the regulatory authority find that the applicant has demonstrated that the operation has been designed to prevent the formation of discharges that would require long-term treatment after mining has been completed.” 80 Fed. Reg. at 44,479. “[A]pproval of a permit that would result in the creation of a discharge requiring long-term treatment would be inconsistent with SMCRA.” *Id.* Yet, as we have shown above, the stream mitigation measures that OSMRE is relying on to restore or create streams are not effective. The measures OSMRE is relying on to prevent high conductivity are unproven. It is arbitrary and capricious for an agency to rely on speculative and unproven mitigation measures and to fail to provide any explanation or analysis showing why those measures will be effective. *OVEC v. Hurst*, 604 F. Supp. 2d 860, 894 (S.D.W.Va. 2009).

Absent such effective measures, OSMRE and the public will be left with mines that require expensive treatment of long-term discharges. Bonding systems are already under severe strain. While OSMRE correctly proposes to require permittees to post sufficient bonds to pay for that treatment, the forecasted long-term decline in coal production, combined with high industry debt loads, means that coal companies will lack the financial resources to post the large bonds that would be required to truly cover these treatment costs. This year has already witnessed an increasing number of bankruptcies in the coal industry, with filings by Patriot Coal, Walter Energy, and Alpha Natural Resources, in which the companies may be allowed to discharge their

liabilities. Before it adopts a rule that relies on coal companies to finance the long-term treatment of pollution discharges, OSMRE must ensure that such treatment is not only technologically feasible, but economically feasible. Otherwise, after mining companies default on their obligations, the U.S. Treasury and taxpayer will end up paying for needed long-term treatment. OSMRE must therefore prepare a financial analysis showing that the coal industry is capable of carrying out the duties that OSMRE assumes it can handle, or adopt stricter protections that prevent these damaging activities in the first place.

The failure of mitigation measures to prevent elevated conductivity and biological impairment is illustrated by Fola's restoration attempts on Boardtree Branch at its Surface Mine No. 3 in West Virginia. West Virginia has listed that stream on its § 303(d) List as biologically impaired by ionic stress. Sierra Club, OVEC and WV Highlands Conservancy sued Fola for discharging ionic pollutants that caused or contributed to that impairment, in violation of Fola's permit condition prohibiting violations of narrative water quality standards. In its settlement, Fola agreed to improve the stream habitat first to try to achieve a passing WVSCI score and, if that failed, to install a treatment system. Fola completed the restoration in early 2014, which consisted of removing the precipitates on the bottom of the stream and reconstructing the stream channel and banks in accordance with Rosgen principles. Fola's most recent monitoring results show that despite Fola's efforts, the stream still has very high conductivity and failing WVSCI scores a year and a half later. *See* Ex. XX, Fola Boardtree status report and monitoring results.

In the absence of proven remedies to prevent long-term pollution and the financial resources to treat it, the proper course is not to permit mines that create those problems in the first place. OSMRE gives lip service to this principle, stating that "[i]n 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 pollutorial discharge that would require continuing long-term treatment without a defined endpoint." 80 Fed. Reg. at 44,479, 44,532. But OSMRE has failed to take the necessary steps to ensure that this does not occur. Instead, it is relying on nothing more than its unsupported belief that its required remedial measures will be successful. That is impermissible. *Hurst*, 604 F. Supp. 2d at 894 ("I am left with nothing but the Corps' unsupported belief in that conclusion [T]he Corps' statements are 'little more than its own promise to obey the law'").

VIII. OSMRE MUST STRENGTHEN THE RULE'S REVEGETATION AND REFORESTATION PROVISIONS.

OSMRE correctly recognizes that the current regulations implementing SMCRA's revegetation and reforestation requirements are woefully inadequate. They have allowed the decimation of Appalachia's forests, with untold negative consequences for the region's wildlife, climate, and water resources.

Central Appalachia is home to "globally significant" forests, notable for their "spatially extensive character." Ex. YY, Riitters et al. 2000.⁷³ Between 1992 and 2012, however, an

⁷³ Ex. YY, Kurt Ritters et al., *Global-Scale Patterns of Forest Fragmentation*, The Resilience Alliance (Sep. 29, 2000), <http://www.ecologyandsociety.org/vol4/iss2/art3/>.

estimated 1.1 million hectares of Central Appalachian forest, or 6.8 percent of the total, has been impacted by mountaintop removal mining.⁷⁴ Forest fragmentation is even more pronounced. Surface coal mining in Central Appalachia “resulted in a loss of interior forest that was approximately 1.5–5.0 times greater than the total forest loss attributable to the practice.”⁷⁵

This forest destruction has especially strong impacts on Appalachian communities because the mountain culture of this region is closely connected to the ancient, mixed deciduous hardwood forest and the species found only within that ecosystem. As the 2005 Programmatic Environmental Impact Statement noted, “The rugged terrain, the vast mixed hardwood forests, the narrow river valleys and the extensive coalfields have profoundly shaped the culture, economy, and quality of life of the region’s residents. The land provides the livelihood, and forms the basis for a way of life for much of the population.” PEIS, p. III.T. The cumulative loss of forested land resulting from mountaintop removal mining has had, and continuous to have, a profound impact on traditional mountain culture in Appalachia.

Reclamation under the current SMCRA implementing regulations has been a failure. “It is estimated that there are more than 300,000 ha across the eastern United States where reforestation on reclaimed mine sites has not met expected outcomes.” Ex. AAA, Wickham at 342. Wickham et al. describe the consequences:

vegetation on mined sites showed little evidence of forest recovery and was dominated by nonnative grasses and trees. Edge forests lacked understory herbs that provide habitat, nutrients, and improve soil structure. The bird communities (both raptor and songbird) on reclaimed sites shifted toward grassland, shrubland, and edge-tolerant species at the expense of avian species that require large, contiguous blocks of mature forest, the native vegetation of the region. The abundance and diversity of species that depend on mature forest were reduced in the forest patches associated with reclaimed mines.

Id. at 343.

While the Stream Protection Rule is an improvement over current regulations with respect to reforestation and vegetative cover, SMCRA requires that OSMRE strengthen these requirements further. SMCRA defines minimum requirements for reestablishment of vegetative cover after mining. The statute itself also spells out specific exceptions to these requirements. OSMRE may not create additional, extra-statutory exceptions by rule. *New Jersey v. EPA*, 517 F.3d 574, 583 (D.C. Cir. 2008); *Am. Methyl Corp. v. EPA*, 749 F.2d 826, 836 (D.C. Cir. 1984) (quoting *Nat’l Railroad Passenger Corp. v. Nat’l Ass’n of Railroad Passengers*, 414 U.S. 453, 458 (1974)) (“When a statute limits a thing to be done in a particular mode, it includes the negative of any other mode.”).

⁷⁴ Ex. ZZ, Emily S. Bernhardt and Margaret A. Palmer, *The environmental costs of mountaintop mining valley fill operations for aquatic ecosystems of the Central Appalachians*, Ann. N.Y. Acad. Sci. 1223: 39–57 (2011) at 39,

⁷⁵ Ex. AAA, James Wickham et al., *The Overlooked Terrestrial Impacts of Mountaintop Removal Mining*, BioScience Vol. 63, No. 5, pp. 335-348 at 340 (May 2013).

Specifically, 30 U.S.C. § 1265(b)(19) provides that the regulations “shall require the operation as a minimum to . . . establish on the regraded areas, and on all other lands affected, a diverse, effective, and permanent vegetative cover of the same seasonal variety native to the area of land to be affected and capable of self-regeneration and plant succession at least equal in extent of cover to the natural vegetation of the area”

30 U.S.C. § 1265(b)(19) & (20) expressly provide for two—and only two—exceptions to this requirement. First, “introduced species may be used” where “desirable and necessary to achieve the approved postmining land use plan.” Second, the regulatory authority may make exceptions to 1265(b)(19) “when the regulatory authority issues a written finding approving a long-term, intensive, agricultural postmining land use.” The statute provides for no other exceptions from these requirements.

OSMRE’s proposed Sections 816.111 and 816.116 are inconsistent with these statutory provisions, unreasonable, and arbitrary, in at least the following respects:

- Section 816.111(a) fails to require that the vegetative cover be “of the same seasonal variety native to the area of land to be affected,” as required by 30 U.S.C. § 1265(b)(19) and § 1265(a).
- Section 816.111(a)(3) would create an exception to the revegetation requirements for “rock piles, water areas, and other non-vegetative features” created under a fish and wildlife protection plan approved by the state. This exception would be contrary to 30 U.S.C. § 1265(b)(19) and does not fall within either of the statutory exceptions.
- Section 816.111(a)(3) would create an exception to the revegetation requirements for any “impervious surface” approved by the state regulatory authority “in support of the postmining land use.” This exception would be contrary to 30 U.S.C. § 1265(b)(19) and does not fall within either of the statutory exceptions. It allows the regulatory authority to create exceptions to 30 U.S.C. § 1265(b)(19) for any approved postmining land use, while the statute limits such exceptions to circumstances where there is an approved “long-term, intensive, agricultural postmining land use.” 30 U.S.C. § 1265(b)(20).
- Section 816.116 would authorize the regulatory authority to develop “standards for revegetation success” that are contrary to statutory requirements. Because the statute itself defines the minimum requirements for revegetation, 30 U.S.C. § 1265(b)(19), OSMRE may not establish different requirements by rule.
 - Section 816.116(b) states that standards for success must be “adequate to demonstrate restoration of premining land use capability and must reflect” the revegetation plan. This is untethered from and inconsistent with the statutory standard of 30 U.S.C. § 1265(b)(19).
 - Section 816.116(b)(4) states that standards for success must reflect the “postmining land use established under § 780.24.” This exception would be contrary to 30 U.S.C. § 1265(b)(19) and does not fall within either of the express exceptions. It would allow the regulatory authority to create exceptions to 30 U.S.C. § 1265(b)(19) for any approved postmining land use, while the statute limits such exceptions to circumstances where there is an approved “long-term, intensive, agricultural postmining land use.” 30 U.S.C. § 1265(b)(20).

- Section 816.116(c)(3) would exempt “land actually used for cropland” from revegetation requirements. This exception would be contrary to 30 U.S.C. § 1265(b)(19) and does not fall within either of the statutory exceptions.
- Section 816.116(d) states that the “ground cover, production, and stocking of the revegetated area will be considered equal to the approved success standard for those parameters when the measured values are not less than 90 percent of the success standard.” That provision is inconsistent with 30 U.S.C. § 1265(b)(19), which requires “at a minimum,” revegetation “at least equal in extent of cover to the natural vegetation of the area.” Section 816.116(d) would authorize revegetation below the statutory minimum.
- Section 816.116(g) would exempt areas “to be developed for industrial, commercial, or residential use” from the revegetation requirements. This exception is contrary to 30 U.S.C. § 1265(b)(19) and does not fall within either of the statutory exceptions.

With regard to reestablishment of forested riparian buffers, OSMRE acknowledges that the 100-foot buffer width it proposes “lies within the lower end of the range of recommended minimum widths for wildlife habitat and flood mitigation, in the middle of the range for sediment removal and nitrogen removal, and exceeds the range recommended for water temperature moderation and bank stabilization and aquatic food web maintenance.” 80 Fed. Reg. at 44,494. The minimum width for the buffer zone should be no less than the middle or average value needed to support any of those functions, and should therefore be increased to ensure at least average support for wildlife habitat and flood mitigation.

IX. OSMRE SHOULD STRENGTHEN THE SELF-BONDING PROVISIONS IN SECTION 800.23.

OSMRE proposes only minor changes to the self-bonding provision in § 800.23 related to the rating organizations used to determine corporate eligibility. 80 Fed. Reg. at 44,539. OSMRE should strengthen this section to provide 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.

X. OSMRE SHOULD STRENGTHEN REGULATORY PROTECTION OF DWELLINGS AND OTHER STRUCTURES FROM DAMAGE DUE TO COAL MINE SUBSIDENCE.

We oppose OSMRE’s proposal at 80 Fed. Reg. 44,577 to delete language in existing 30 C.F.R. § 784.20(a)(3) that requires a pre-subsidence survey of the condition of all non-commercial buildings or occupied residential dwellings and related structures that might be materially damaged by subsidence, or have their reasonably foreseeable value diminished by subsidence. We also oppose OSMRE’s proposal to remove all of existing 30 C.F.R. § 817.121(c)(4) except paragraph (c)(4)(v), thus eliminating the rebuttable presumption of causation by subsidence with respect to damage to structures located within the angle of draw from underground coal workings. OSM bases these proposals on an erroneous interpretation of the decision in *National Mining Ass’n v. Babbitt*, 172 F.3d 906 (D.C. Cir. 1999). That decision

requires revision of the regulations at issue, but it most certainly neither requires nor supports the proposed abandonment of pre-subsidence surveys or the rebuttable presumption of causation.

A pre-subsidence survey can be a vital tool in proving that coal mine subsidence is the cause of damage to land or structures that occurs after underground mining operations begin. When OSMRE adopted the existing rule on pre-subsidence surveys, the agency explained that such surveys were necessary “to effectively implement the requirements of the Energy Policy Act,” 60 Fed. Reg. 16,730 (1995), because the required information is “essential to establish a baseline against which the effects of subsidence may be measured,” 60 Fed. Reg. 16,729.

The D.C. Circuit found this explanation satisfactory. *National Mining Ass’n v. Babbitt*, 172 F.3d at 914. Nonetheless, the court vacated the regulation because OSMRE had defined too broadly the area subject to the rebuttable presumption of causation and within which each permit applicant must conduct its pre-subsidence survey. *Id.* at 913, 915. The vacated regulations established the rebuttable presumption and required surveys not only within the so-called “shadow area” that directly overlies proposed underground mine workings but also within a larger area defined by each proposed mine’s “angle of draw.”

Nothing in the court’s decision prohibits OSMRE from redrafting the existing regulations to apply the rebuttable presumption or to require pre-subsidence surveys only in the “shadow area.” Indeed, OSMRE noted in suspending the regulations that the appeals court had clearly upheld the Secretary’s authority to require a pre-subsidence structural condition survey of all protected structures. 64 Fed. Reg. 71,652, 71,653 (Dec. 17, 1999).

Instead of abandoning the rebuttable presumption and the pre-subsidence survey requirement with respect to structures, OSMRE should redraft the existing regulatory language to tailor those provisions to the appeals court’s decision. OSMRE’s best option would be to apply the presumption and require pre-subsidence surveys within areas defined by the “angle of critical deformation” that the appeals court appeared to find acceptable. We realize that doing so would require OSMRE to develop the scientific rationale for use of the angle of critical deformation as a basis for rebuttable presumption of subsidence causation, and we encourage OSMRE to do so. Alternatively and at a minimum, OSMRE should revise its proposed regulations to apply the rebuttable presumption of subsidence causation and require pre-subsidence surveys of protected features within each proposed underground mine’s “shadow area”.

Recommended change to § 784.30(a)(3): Revise the subsection as follows:

(a) Pre-subsidence survey. Each application must include:

(3) A survey of the condition of all non-commercial buildings or occupied residential dwellings and structures related thereto, that may be materially damaged or for which the reasonably foreseeable use may be diminished by subsidence, within the land located immediately above the proposed underground mine workings; as well as a survey of the quantity and quality of all drinking, domestic, and residential water supplies within the permit area and adjacent area that could be contaminated, diminished, or interrupted by subsidence. If the

applicant cannot make this survey because the owner will not allow access to the site, the applicant will notify the owner, in writing, of the effect that denial of access will have as described in § 817.121(c)(4) of this chapter. The applicant must pay for any technical assessment or engineering evaluation used to determine the pre-mining condition or value of such non-commercial buildings or occupied residential dwellings and structures related thereto and the quantity and quality of drinking, domestic, or residential water supplies. The applicant must provide copies of the survey and any technical assessment or engineering evaluation to the property owner and regulatory authority.

Recommended change to § 817.121(f): Revise the subsection as follows:

(f) *Rebuttable presumption of causation of subsidence within lands above underground mine workings; information to be considered in determination of causation in other areas.* (i) If damage to any non-commercial building or occupied residential dwelling or structure related thereto occurs as a result of earth movement within an area immediately overlying underground mine workings, a rebuttable presumption exists that the permittee caused the damage.

(ii) If the permittee was denied access to the land or property for the purpose of conducting the pre-subsidence survey in accordance with § 784.20(a) of this chapter, no rebuttable presumption will exist.

(iii) *Rebuttal of presumption.* The presumption will be rebutted if, for example, the evidence establishes that: The damage predated the mining in question; the damage was proximately caused by some other factor or factors and was not proximately caused by subsidence; or the damage occurred outside the surface area within which subsidence was actually caused by the mining in question.

(iv) *Information to be considered in determination of causation.* In any determination whether damage to protected structures was caused by subsidence from underground mining, all relevant and reasonably available information will be considered by the regulatory authority.

XI. OSMRE MUST PRESERVE THE RIGHT OF THE OWNER OF A SUBSIDENCE-DAMAGED DWELLING OR SIMILAR STRUCTURE TO CHOOSE BETWEEN REPAIR OR MONETARY COMPENSATION; THE AGENCY MAY NOT LAWFULLY AUTHORIZE COAL MINE PERMITTEES TO CHOOSE.

OSMRE's rules have long required coal operators to repair or compensate the owner of any non-commercial building, occupied residential dwelling, or related structure that becomes damaged as the result of coal mine subsidence. 30 C.F.R. § 817.121(c)(2). Without any explanation, however, OSMRE proposes to rewrite the pertinent regulation in a manner that gives the coal mine permittee who damages property the right to choose between repairing it or compensating the owner. *See* 80 Fed. Reg. 44,695 (§ 817.121(d)). Under OSMRE's proposed revision of the rule, a person who suffers damage apparently would have no say on the subject.

Depending on the circumstances, a citizen may strongly prefer repair to compensation or

vice versa. Ascertaining the correct amount of money necessary to compensate damage to property may require a citizen to hire a lawyer and prosecute lengthy judicial proceedings that can impose a substantial financial burden. If coal operators are allowed to refuse to repair damaged property, these factors may force many citizens as a practical matter to accept an offer of compensation that is inadequate to cover the lost value of their homes or other property.

On the other hand, in different circumstances, a citizen may strongly prefer immediate monetary compensation rather than endure what can become a drawn-out series of half-hearted attempts to repair what turns out to be irreparably damaged property. Many citizens do not trust coal operators to repair their homes or other property promptly or competently. These citizens do not want an operator or its agents intruding on their lives any further than they already have.

The Colorado Court of Appeals, in construing this aspect of the approved Colorado state regulatory program under SMCRA, rejected a coal operator's demand of the right to choose between repair and compensation after the operator damaged a homeowner's residence as the result of coal mine subsidence. That Court held instead that "the Colorado Surface Coal Mining and Reclamation Act and its associated regulations do not confer onto a defendant found to have caused subsidence damage to a plaintiff the power to elect which remedy to provide." *Tatum v. Basin Resources, Inc.*, 141 P.3d 863, 871 (Colo. Ct. App. 2005) (citations omitted); *see also Hancock v. Island Creek Coal Co.*, 2009 U.S. Dist. LEXIS 30841 (W.D. Ky. Apr. 10, 2009) (memorandum opinion and order on motion *in limine*) (recognizing a landowner's election to pursue compensation for land damaged by coal mine subsidence).

OSMRE must revise the text of its proposed rule to make clear that the choice between repair and compensation rests with the person who has suffered damage, not the coal operator who has caused it. To foster prompt, inexpensive resolution of subsidence damage claims, we ask that OSMRE further clarify in the rule that the SMCRA regulatory authority must, upon request, promptly determine and inform each affected property owner and permittee whether repair of any specific subsidence-related damage is technologically feasible.

Recommended change to § 817.121(d): Revise the subsection as follows:

(d) *Repair or compensation for damage to non-commercial buildings and dwellings and related structures.* (1) You must promptly repair, or compensate the owner for, material damage resulting from subsidence caused to any non-commercial building or occupied residential dwelling or structure related thereto that existed at the time of mining. Upon written request of either party, the regulatory authority shall promptly determine and inform you and each affected property owner whether repair of any specific subsidence-related damage is technologically feasible.

(2) If the owner selects the repair option, you must fully rehabilitate, restore, or replace the damaged structure.

(3) If the owner selects the compensation option, you must compensate the owner of the damaged structure for the full amount of the decrease in value resulting from the subsidence-related damage. You may provide compensation by the purchase, before mining, of a non-

cancelable, premium-prepaid insurance policy.

(4) The requirements of paragraph (d) of this section apply only to subsidence-related damage caused by underground mining activities conducted after October 24, 1992.

XII. OSMRE SHOULD CLARIFY THE EFFECT OF ITS PROPOSED REGULATIONS ON UNDERGROUND MINING OF PRIME FARMLAND.

OSMRE's proposed regulations do not specifically address the potential adverse impacts of underground mining activities on the hydrologic balance of prime farmlands. These impacts can significantly reduce the productivity of prime farmland by (1) altering soil or groundwater hydrology or (2) modifying pre-mining topography in ways that erode or waterlog historically productive soil zones. Indeed, the draft regulatory impact analysis for proposed regulations confirms that coal mine subsidence has resulted in changes to drainage patterns, highly saturated soils, and surface ponding. Draft Regulatory Impact Analysis of the Stream Protection Rule, Appendix D at 36.

To counter the threat that underground mining activities, including longwall operations, pose to the hydrologic balance of prime farmlands – and therefore to their productivity – the final rules that OSMRE adopts should revise current 30 C.F.R. § 785.17 to provide that (1) the required reconnaissance inspection must include a proposed mine's **adjacent area** as well as its **permit area** and (2) the soil survey, reconstruction, and pre-mining productivity mandates also extend to the proposed mine's **adjacent area**. Additionally, the final rules should require each proposal to undermine prime farmland to include the same prime farmland survey and information requirements for each proposed mine's **adjacent area** that the current rule requires with respect to its **permit area** alone. Accordingly, we urge OSMRE to revise all pertinent subsections of proposed 30 C.F.R. § 783.21 to add the phrase “or adjacent area” each time the text contains the phrase “permit area”.

The text of the final rules should also require each permit applicant to identify prime farmland in the survey of the permit and adjacent area required by § 784.30(a). More importantly, the final rule should revise the text of the regulatory definition of “material damage” (due to subsidence) to include any physical change that diminishes the productivity of prime farmland and to require each regulatory authority to include among the material damage criteria for any permit that proposes to affect or undermine prime farmland the productivity standards set forth at 30 C.F.R. § 823.15.

Recommended change to definition of “material damage” in § 701.5: Revise subparagraph (b) as follows:

(b) Any physical change that has a significant adverse impact on the affected land's capability to support any current or reasonably foreseeable uses or causes significant loss in production or income, including any physical change in prime farmland that significantly diminishes the productivity of such land in comparison with its pre-mining productivity; or

Recommended change to § 783.21: Revise the section as follows:
Your permit application must include—

- (a) The results of a reconnaissance inspection to determine whether the proposed permit area or adjacent area may contain prime farmland, as required by § 785.17(b)(1) of this chapter.
- (b)(1) A map showing the soil mapping units located within the proposed permit area and adjacent area, if the National Cooperative Soil Survey has completed and published a soil survey of the area.
- (2) The applicable soil survey information that the Natural Resources Conservation Service maintains for the soil mapping units identified in paragraph (b)(1) of this section. You may provide this information either in paper form or via a link to the appropriate element of the Natural Resources Conservation Service's soil survey Web site.
- (c) A description of soil depths within the proposed permit area and adjacent area.
- (d) Detailed information on soil quality, if you seek approval for the use of soil substitutes or supplements under § 784.12(e) of this chapter.
- (e) The soil survey information required by § 785.17(b)(3) of this chapter if the reconnaissance inspection conducted under paragraph (a) of this section indicates that prime farmland may be present in the permit area or adjacent area.
- (f) Any other information that the regulatory authority finds necessary to determine land capability and to prepare the reclamation plan.

Recommended change to § 780.21 and § 784.21: Add new subsection (iv) to each subsection (b)(6) as follows:

- (iv) If the proposed permit area or adjacent area includes prime farmland, the productivity standards set forth at 30 C.F.R. § 823.15.

Recommended change to § 784.30: Revise subsections (a)(1) and (2) as follows:

- (1) A map of the permit and adjacent areas at a scale of 1:12,000, or larger if determined necessary by the regulatory authority, showing the location and type of structures, renewable resource lands, and prime farmland that subsidence may materially damage or for which the value or reasonably foreseeable use may be diminished by subsidence, and showing the location and type of drinking, domestic, and residential water supplies that could be contaminated, diminished, or interrupted by subsidence.
- (2) A narrative indicating whether subsidence, if it occurred, could cause material damage to or diminish the value or reasonably foreseeable use of such structures, renewable resource lands, or prime farmland, or could contaminate, diminish, or interrupt drinking, domestic, or residential water supplies.

Recommended change to § 785.17 (to which OSM currently proposes no change):

Revise subsections (b) as follows:

(b) *Application contents—Reconnaissance inspection.* (1) All permit applications, whether or not prime farmland is present, shall include the results of a reconnaissance inspection of the proposed permit area and the proposed adjacent area to indicate whether prime farmland exists. The regulatory authority in consultation with the U.S. Soil Conservation Service shall determine the nature and extent of the required reconnaissance inspection.

(2) If the reconnaissance inspection establishes that no land within the proposed permit area or the proposed adjacent area is prime farmland historically used for cropland, the applicant shall submit a statement that no prime farmland is present. The statement shall identify the basis upon which such a conclusion was reached.

(3) If the reconnaissance inspection indicates that land within the proposed permit area or proposed adjacent area may be prime farmland historically used for cropland, the applicant shall determine if a soil survey exists for those lands and whether soil mapping units in the permit area or adjacent area have been designated as prime farmland. If no soil survey exists, the applicant shall have a soil survey made of the lands within the permit area or adjacent area which the reconnaissance inspection indicates could be prime farmland. Soil surveys of the detail used by the U.S. Soil Conservation Service for operational conservation planning shall be used to identify and locate prime farmland soils.

(i) If the soil survey indicates that no prime farmland soils are present within the proposed permit area or the proposed adjacent area, paragraph (b)(2) of this section shall apply.

(ii) If the soil survey indicates that prime farmland soils are present within the proposed permit area or proposed adjacent area, paragraph (c) of this section shall apply.

Revise subsections (c) and (c)(1) as follows:

(c) *Application contents—Prime farmland.* All permit applications for areas in which prime farmland has been identified within the proposed permit area shall include the following:

(1) A soil survey of the permit area and adjacent area according to the standards of the National Cooperative Soil Survey and in accordance with the procedures set forth in U.S. Department of Agriculture Handbooks 436 “Soil Taxonomy” (U.S. Soil Conservation Service, 1975) as amended on March 22, 1982 and October 5, 1982, and 18, “Soil Survey Manual” (U.S. Soil Conservation Service, 1951), as amended on December 18, 1979, May 7, 1980, May 9, 1980, September 11, 1980, June 9, 1981, June 29, 1981, November 16, 1982. The U.S. Soil Conservation Service establishes the standards of the National Cooperative Soil Survey and maintains a National Soils Handbook which gives current acceptable procedures for conducting soil surveys. This National Soils Handbook is available for review at area and State SCS offices.

(ii) The soil survey shall include a description of soil mapping units and a representative soil profile as determined by the U.S. Soil Conservation Service, including, but not limited to, soil-horizon depths, pH, and the range of soil densities for each prime farmland soil unit within the permit area. Other representative soil-profile descriptions from the locality, prepared according to the standards of the National Cooperative Soil Survey, may be used if their use is approved by the State Conservationist, U.S. Soil Conservation Service. The regulatory authority may request the operator to provide information on other physical and chemical soil properties as needed to make a determination that the operator has the technological capability to restore the prime farmland within the permit area to the soil-reconstruction standards of part 823 of this chapter.

XIII. PHOTOGRAPHS OF THE HARM FROM MOUNTAINTOP REMOVAL MINING



The forested, highly bio-diverse mountains of Central Appalachia. Credit: Chris Jordan-Bloch/Earthjustice



Mountaintop removal mining. Credit: OVEC



Credit: OVEC



Credit: Chris Jordan-Bloch/Earthjustice



Hobet mountaintop removal mine, West Virginia (aerial view, 2012).
Credit: Neil Gormley/Earthjustice



Blasting at a surface coal mine. Credit: Dmitri Melnik/Shutterstock



Credit: OVEC



The late Larry Gibson views the mountaintop removal mine near his home at Kayford Mountain, West Virginia. “There are some things money shouldn’t be able to buy.”

XIV. CONCLUSION

For the foregoing reasons, all of the groups listed at the beginning of this letter urge OSMRE to strengthen the Stream Protection Rule before finalizing it.

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