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Office of Surface Mining Reclamation and Enforcement
Administrative Record
Room 252 SIB
1951 Constitution Avenue NW
Washington, DC 20240
Submitted online via www.regulations.gov

RE: Docket ID: OSM–2010–0018, Stream Protection Rule

Dear Director Pizarchik,

Thank you for the opportunity to submit comments on the Office of Surface Mining Reclamation and Enforcement's (OSMRE) proposed Stream Protection Rule that was noticed in the Federal Register on July 27, 2015. On behalf of our members, the undersigned organizations that actively work to address coal mining impacts in the western United States wish to express our support for the Stream Protection Rule. We commend OSMRE staff for the hard work that has gone into this important rulemaking.

For too long, coal mines have been able to ravage arid landscapes and watersheds in the West with little-to-no consequences. That is not what the Surface Mining Control and Reclamation Act of 1977 (SMCRA) intended. With lack of clarity in the rules as well as lagging enforcement, coal mining companies have repeatedly damaged surface and groundwaters, which are vital and necessary for meeting the future water needs of our communities in the West.

Northern Plains Resource Council is a grassroots conservation and family agriculture non-profit organization based in Billings, Montana. Northern Plains organizes Montana citizens to protect our water quality, family farms and ranches, and unique quality of life. Northern Plains is dedicated to providing the information and tools necessary to give citizens an effective voice in decisions that affect their lives. Northern Plains formed in 1972 over the issue of coal strip mining and its impacts on private surface owners who own the land over federal and state mineral reserves as well as the environmental and social impacts of mining and transporting coal. Many of our members own farms and ranches in areas affected by coal mines. Our members' livelihoods depend entirely on clean air and water, native soils and vegetation, and lands that remain intact.

Powder River Basin Resource Council is a grass-roots organization of individuals and affiliate groups dedicated to good stewardship of Wyoming's natural resources. Powder River was formed in 1973 and stands for the preservation and enrichment of our agricultural heritage and rural lifestyle; the conservation of Wyoming's unique land, minerals, water and clear air consistent with responsible use of these resources to

sustain the livelihood of present and future generations; and the education and empowerment of Wyoming's citizens to raise a coherent voice in the decisions that will impact Wyoming residents' environment and lifestyle.

Dakota Resource Council was formed in 1978 to protect North Dakota's land, air, water, rural communities and agricultural economy. DRC is working for preservation of family farms, enforcement of corporate farming laws, soil and water conservation, regulation of coal mining and oil and gas development, protection of groundwater and clean air, renewable energy, and sound management of solid and toxic wastes.

The Western Organization of Resource Councils (WORC) is a regional network of eight grassroots community organizations with 12,200 members and 40 local chapters and affiliates in seven states, including North Dakota, Colorado, Idaho, Montana, Oregon, South Dakota, and Wyoming. Our members farm and ranch on lands next to and overlying federal, state and privately owned coal deposits, and these landowners are not only experiencing numerous impacts due to coal mining, transport, and processing of that coal but have also seen impacts to their water resources. WORC and its member groups have a longstanding interest in the full implementation of SMCRA, particularly its promise of full reclamation of mined lands and waters. For more than 40 years we have actively engaged in advocacy on these issues.

Many of the regulatory changes proposed in the Stream Protection Rule are reasonable, well thought-out, and necessary. Our organizations have repeatedly called for some of the same proposed policies during the past years and decades, including in a recently released report, "Undermined Promise II." The report evaluates the progress of compliance under SMCRA 38 years after its passage, with special focus on the evaluation of mine-site hydrology. Many of our comments on the proposed rule derive from a white paper on the hydrologic provisions of SMCRA produced for WORC by geohydrologist Charles M. Norris. We have attached digital copies of "Undermined Promise II" and Mr. Norris' whitepaper to this letter via regulations.gov. A full list of enclosures is included below.

Among other recommendations for reform, "Undermined Promise II" called for:

- **A thorough and defensible characterization of the hydrologic balance** in a permit application area. If the characterization of the hydrologic balance is incomplete or flawed, it is not possible to correctly predict the consequences of a mining plan to the hydrologic balance during and post-mining. If consequences of a mining plan are unknown, there can be no valid determination that the damage levels to the hydrologic balance comply with the requirements of SMCRA.

We greatly approve of the improved requirements for baseline hydrologic data as found in proposed 30 CFR 780.19, 780.20, 780.23, 784.19, 784.20, and 784.23. We would like to underscore the importance of measuring for sulfate and sodium, both of which pose risks for western agriculture when at elevated levels.

We recommend, however, that OSMRE also include boron in the list of required water quality analytes. Boron, while essential in trace quantities, can reach toxic levels for both crops and livestock at relatively low concentrations. Many University Extension Services recommend

consumption levels of not more than 5 mg/L.¹ Given that agricultural producers are frequently located adjacent to coal mines in the West (and elsewhere), boron should be measured to establish baseline surface and groundwater quality.

- **At least four consecutive seasons of data collection to establish seasonal variation of a hydrologic system.** Virtually all areas mined for coal in the United States experience four seasons during the course of a year. These four seasons are each distinct in their climatologic patterns and their relationships to the preceding and following seasons. Thus, it is not possible to generate one season's characteristics from those of another season through extrapolation.

We commend OSMRE for proposing monthly data collection as proposed in 30 CFR 780.19 and 784.19, and, especially, going one step further by excluding from consideration as baseline any data collected during hydrologically abnormal conditions.

We note, however, that while the proposed monitoring frequency of twelve equally spaced monthly intervals for a minimum of twelve consecutive months is adequate to characterize the quantity of groundwater in a permit application area, this frequency is not adequate to characterize perennial stream flow. Our report, "Undermined Promise II," also called for daily measurement of perennial stream flow to distinguish seasonal from event-generated variations. While groundwater conditions generally vary slowly, surface water flows and, to a lesser extent, discharge patterns from some springs are subject to episodic flow variations that occur during a much shorter period than annually or seasonally. Such variations are primarily related to precipitation events or periods of snowmelt that occur either locally or upstream of the point of observation. Isolating the seasonal variations from a flow pattern that superimposes long- and short-term events requires that the observation interval be shorter than the duration of the short-term events in the record.

Because one measurement of streamflow per month does not provide adequate information to distinguish whether a particular month's data is representative of the entire month or simply precipitation event(s)-generated flow, OSMRE should require daily or weekly flow measurements to characterize baseline streamflow in its proposed 30 CFR 780.19(c)(4)(iii) and 784.19(c)(4)(iii).

- **Clear definitions of what constitutes material damage.** SMCRA requires a definition of material damage for compliance with and enforcement of the law. The responsibility for developing that definition is upon the regulating authority. The regulatory authority cannot make a meaningful finding of "no material damage" if it does not first define it. No valid coal mining permits can be issued without a definition of material damage as the operator cannot design an operations plan or a reclamation plan that will prevent material damage outside the permit area if the level that constitutes material damage is not defined.

¹ See <http://www2.ca.uky.edu/agc/pubs/id/id170/id170.pdf>, <http://extension.missouri.edu/p/EQ381>, <http://www.montana.edu/cpa/news/wwwpb-archives/ag/baudr146.html>; <http://www.fao.org/docrep/003/t0234e/t0234e05.htm>.

The proposed regulations proposed in 30 CFR 773.15, 780.21(b) and 784.21(b) go a long way toward making the changes recommended in our report. However, we believe that OSMRE should go one step further. The regulations should require the regulatory authority to establish lower corrective action thresholds in order to identify the point at which the permittee must take action to minimize the potential that adverse trends will continue and ultimately cause material damage to the hydrologic balance outside the permit area, as suggested at 80 Fed. Reg. 44502. We believe that lowering the threshold for corrective action in order to address adverse trends before material damage occurs would be a more effective and efficient way to prevent material damage to the hydrologic balance outside the permit area as required by SMCRA.

- **Flows within and between elements of the hydrologic balance are needed to characterize the baseline hydrologic balance**, including seasonal variations of those flows. Characterizing the flows between elements of the hydrologic balance is difficult, but possible if the data on flows within each element of the hydrologic balance are fully characterized. For instance, multiple measurements of flow along the course of a stream allow identification of gaining and losing reaches, which identify areas where groundwater is transferring to surface water and where surface water is transferring to groundwater, respectively. Identifying and locating these types of transfers are an integral part of characterizing the hydrologic balance. This essential step in characterization describes the conditions that set the ultimate performance requirements of SMCRA.

Seepage runs, described above, are a professionally accepted method for identifying the interconnections between surface and groundwater. Proposed 30 CFR 784.19 requires that the characterization of the surface water quantity include seepage runs, but only where an operator proposes to deploy a longwall panel or other type of full-extraction mining method beneath a perennial or intermittent stream.

We commend OSMRE for requiring the completion of seepage runs before underground mining operations may commence, as mining-related subsidence through a stream reach can divert stream flow underground with detrimental effects for downstream water users. We urge OSMRE to require the completion of seepage runs for all proposed mining operations as this information is crucial to determining existing interconnections between surface and groundwater flow that should be a part of any thorough characterization of the hydrologic balance.

We urge OSMRE to strike the second half of proposed 30 CFR 784.19(c)(3)(D) (i.e., "...if you propose to deploy a longwall panel beneath a perennial or intermittent stream or employ other types of full-extraction mining methods beneath a perennial or intermittent stream...") to read: "Seepage-run sampling determinations." We further urge OSMRE to include an identical paragraph at 30 CFR 780.19(c)(3) that would apply to surface mining operations. We believe these additions are necessary to establish credible baseline data on the hydrologic balance, and this information will assist in the determination of probable hydrologic consequences (PHC) and cumulative hydrologic impacts due to mining.

In addition to the specific recommendations of our report that have been incorporated into the proposed rule, we commend OSMRE for the following improvements to the existing rules:

- **Review and verification of probable hydrologic consequences upon permit renewal (30 CFR 774.15).** We commend OSMRE for its proposed changes to 30 CFR 774.15 that would require: a) that each application for permit renewal include an analysis of the monitoring results for surface water, groundwater, and the biological condition of streams as well as an evaluation of the accuracy and adequacy of the determination of the PHC of mining (proposed paragraph [b][2][vii]); b) that a renewal application include either an update of the PHC determination or documentation that the findings in the existing PHC determination are still valid (proposed paragraph [b][2][viii]); and c) that regulatory authorities withhold approval of a permit renewal application if monitoring results or the updated PHC determination indicate that the initial finding that the regulatory authority made under 30 CFR 773.15(e) that the operation is designed to prevent material damage to the hydrologic balance outside the permit area is no longer accurate (proposed paragraph [c][1][viii]).

We believe that the verification of predicted hydrologic consequences due to mining has been overlooked heretofore. We greatly approve of OSMRE's proposed requirements to correct that omission. Confirming the accuracy of previous analysis would be a validation of the efforts of operators and regulatory authorities while the discovery of inaccuracies in previous analysis is a crucial step for rectifying the situation. In light of OSMRE's proposed improvements of baseline data collection (discussed above) and the surface and groundwater monitoring programs (in proposed 30 CFR 780.23 and 784.23), we believe the informational feedback loop proposed in 30 CFR 774.15 will result in a more detailed determination of the PHC of mining operations and a more thorough cumulative hydrologic impact analysis. The ultimate result will be better protections for streams.

- **Assessing biological parameters of stream health (proposed 30 CFR 780.23, 784.23, and 816.37).** OSMRE's proposed 30 CFR 780.19(e) and 784.19(e) require assessments of the biological condition of perennial and intermittent streams and a representative number of ephemeral streams in the permit area and adjacent area. By establishing baseline stream health, this data would allow the preparation of a comprehensive cumulative hydrologic impact assessment that determines whether or not the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area. The data would also assist in determining whether or not the mining operation has been and is being conducted to minimize adverse impacts to fish, wildlife, and related environmental values as required by SMCRA. We commend OSMRE for these proposed improvements.
- **New bonding requirements to fund mitigation of long-term water degradation (proposed 30 CFR 800.18).** OSMRE's bonding requirements to fund treatment of long-term water pollution discharges in proposed 30 CFR 800.18 are a far-sighted and timely improvement. We believe regulatory authorities will face long-term funding shortfalls to remediate unforeseen hydrologic reclamation issues and will require a renewing stream of income to fund treatment. We commend OSMRE as proposed 30 CFR 800.18 requires operator-endowed trust funds or annuities that would be managed at the discretion of the regulatory authority.

Despite all the welcome changes found in the Stream Protection Rule, we find several areas of the proposed rules that do not go far enough and, consequently, deserve critical comment, which we provide below:

- **The definition of “material damage to the hydrologic balance outside the permit area” needs to be strengthened and clarified (30 CFR 701.5).**

We appreciate a definition—at long last—of “material damage to the hydrologic balance outside the permit area.” We believe the definition will result in a suite of protections that will prevent minimal enforcement or “business as usual.” However, we note with grave concern that it appears to us that OSMRE is moving away from a definition of material damage that is based on a holistic understanding of hydrologic balance, including the interconnections between the elements involved, and, instead, is moving toward an approach based solely on water quality rules under the Clean Water Act (CWA). Addressing material damage to the hydrologic balance in this way may be a flawed approach for several reasons. First, the CWA barely address groundwater in either chemistry or volume measurement and the CWA only indirectly addresses the connectivity of groundwater and surface water. While it is restated in the Preamble many times that permits and regulations under SMCRA cannot undercut water protections required under the CWA, this does not acknowledge the fact that actually implementing the intent of SMCRA (to protect the entire hydrologic balance instead of merely protecting designated uses of water under CWA) would require better regulatory controls above and beyond those required to protect CWA-designated uses. Therefore, we support a more holistic definition of “material damage to the hydrologic balance outside the permit area.”

Additionally, we believe that the proposed standard for material damage to the hydrologic balance outside the permit area is too permissive, i.e., that designated or reasonably foreseeable future uses are “precluded” by mining activities. The normal meaning of “preclude” is to prevent something from happening or making it impossible to happen, and this definition is not in accordance with the intent as stated in 30 U.S.C. §1260(b)(3) – that material damage is to be prevented outside the permit area. Neither OSMRE nor the CWA describe any situation when the “preclusion” of a water use occurs. Material damage to the hydrologic balance outside the permit area resulting from mining activities could conceivably *impair* designated and/or reasonably foreseeable uses of surface or groundwater without fully precluding them. We recommend that OSMRE add a definition for the term “preclude” in its proposed 30 CFR 701.5 that defines the term as “partially or completely eliminate or significantly degrade.”

- **OSMRE should not assume restoration of mined-through streams is possible anywhere, especially in the western United States (30 CFR 780.28, 784.28, 816.57).**

In support of its contention that stream restoration is possible following mining of a stream channel, OSMRE cites examples from the State of Illinois. Even if it is technically feasible to restore the hydrologic form and ecological function of streams impacted by mining in the mid-continent, we hold that it would be impossible without the significant annual precipitation that region receives. While we are aware of proposed and ongoing stream relocation and reconstruction efforts in the West, we do not believe that any have proven to return streams in arid regions to their previous ecological function. Even if reconstructed, streams originally receiving flow from groundwater would likely not receive any baseflow until permeable backfilled spoils saturate. Given the arid or semi-arid climate of the West, we expect that saturation of backfilled spoils would take centuries. We are skeptical of the notion that restoration of mined-through streams is feasible in the arid United States. We do not think that OSMRE should sanction such a highly experimental and untested practice.

OSMRE also proposes to link restoration of hydrologic and ecological functions of streams to bond release. Restoration of hydrologic form of a relocated and mined stream channel would be required for Phase I

bond release, and restoration of ecological function would be required for Phase III bond release. This is unlikely to add substantial incentive to stream restoration due to the slow pace of bond release. Evaluation Year 2015 data indicates that across the Great Plains states of Montana, Wyoming, and North Dakota, final bond release totaled 12.35% of disturbed area:

<u>Current Status of Phase III Bond Release in Three Western States</u>				
<i>State</i>	Montana*	Wyoming	North Dakota	Total
<i>Phase III bond release (% of disturbed acreage)</i>	10.86%	9.08%	20.84%	12.35%
	41,005 ac. disturbed	177,719 ac. disturbed	75,483 ac. disturbed	294,207 ac. disturbed
	4,454 ac. Ph. III	16,141 ac. Ph. III	15,732 ac. Ph. III	36,327 ac. Ph. III
* Montana’s regulatory program includes a Phase IV bond release that requires an entire drainage meet hydrologic reclamation requirements. A negligible amount of acreage has been released from Phase IV bond.				
<i>Source: Evaluation Year 2015 Reclamation Status Tables, provided by OSMRE Western Region staff.</i>				

Several permitted coal mines in these states have been in operation for decades but have not received any final bond release during that time. In the language of proposed 30 CFR 816.57(b)(2), which requires that operators “restore the form and ecological function of [mined-through] stream segment[s] as expeditiously as practicable,” we hear the echo of SMCRA’s unmet requirement to reclaim mined lands as “contemporaneously as practicable.”² We urge OSMRE to not sanction stream mining and restoration as an approach that protects the hydrologic balance. Further, we do not believe stream restoration is ensured by tying it to bond release.

- **Drainage area definition of “intermittent stream” should remain intact (30 CFR 701.5).**

A close examination of SMCRA’s stream definitions establishes that, collectively, they neither describe the universe of all streams nor prevent one stream from meeting the definitions of more than one SMCRA stream type. Despite these problems with stream definitions, SMCRA does confer a significantly higher level of protection on intermittent and perennial streams than is conferred upon ephemeral streams. Under existing rules, an ephemeral stream may be simply mined through, whereas the mine boundary cannot come within 100 feet of an intermittent or perennial stream without complying with the special protections of the stream buffer rule.

Existing 30 CFR 701.5 defines “intermittent stream” as “(a) A stream or reach of a stream that drains a watershed of at least one square mile, or (b) A stream or reach of a stream that is below the local water table for at least some part of the year, and obtains its flow from both surface runoff and ground water discharge.” These alternatives can be differentiated as the “area” definition and the “hydrologic” definition, respectively. OSMRE proposes to redefine “intermittent stream” by removing the area definition and modifying the hydrologic definition.

In the case of intermittent streams, the detail and efficacy of the characterization of the hydrologic balance is absolutely critical for obtaining available protections under SMCRA. The definition of “intermittent stream” relies upon the correct assessment of the nature of water transfer between groundwater and a stream throughout the year. If the characterization of the hydrologic balance is insufficient to document groundwater

² See 30 U.S.C. §1265(b)(16).

discharge to the stream during part of the year, the valuable protection is lost to the stream unless the stream qualifies under the area definition. Adequate characterization is costly and time-consuming. The area definition is a valuable backstop to improper hydrologic characterization.

The area definition of streams also attests to the hydrologic relevance of substantial drainage areas. Any drainage greater in area of one square mile will collect and transmit enough water to significantly contribute to the local hydrologic balance. Such streams also have hydrologic effects beyond the immediate basin as they impact all stream segments downstream. At a size of one square mile, a stream is influencing how much precipitation infiltrates the surface, how much precipitation is collected as runoff, and how fast the water runs-off. In arid regions, a square-mile drainage may not contribute a large volume of water to the hydrologic balance of the area on its own, but such drainages may very well contribute a large portion of the hydrologic balance's total water.

Streams that drain an area of one square mile or more are hydrologically significant. We urge OSMRE to retain the area definition of "intermittent stream."

- **New protections for alluvial valley floors (AVF) should be proposed, OSMRE should review the effects of changed stream definitions on AVF (30 CFR 785.19, 822.12).**

As defined in existing 30 CFR 701.5, AVFs are the "unconsolidated stream-laid deposits holding streams with water availability sufficient for subirrigation or flood irrigation agricultural activities." Alluvial valley floors in the arid and semiarid areas west of the 100th Meridian are highly productive agricultural areas that receive special protections under existing 30 CFR 785.19 and 822.12. Hay production on an AVF can sustain grazing operations on surrounding rangeland, and, frequently, is critical to the viability of long-term ranching operations. For these reasons, the performance standards implemented under SMCRA require that "[s]urface coal mining and reclamation operations ... not: (1) [i]nterrupt, discontinue, or preclude farming on alluvial valley floors; or (2) cause material damage to the quantity or quality of water in surface or underground water systems that supply alluvial valley floors."

We are concerned that OSMRE neither proposes any improvements to the protections afforded AVF in existing 30 CFR 789.19 and 822.12 nor reconciles proposed stream protections and definitions with existing AVF protections. In light of the significant proposed improvements to surface and groundwater characterization, including establishing seasonal variation as twelve equally spaced samples over twelve months, excluding periods of anomalous climatic condition, we believe that OSMRE should require regulatory authorities adhere to similar strictures in identifying AVFs. The process of identifying an AVF is left up to each regulatory authority in existing 30 CFR 785.19(a)(1). That paragraph also requires that data provided by the applicant "shall include sufficiently detailed geologic, hydrologic, land use, soils, and vegetation data and analysis to demonstrate the probable existence of an alluvial valley floor in the area," and that the "regulatory authority may require additional data collection and analysis or other supporting documents, maps, and illustrations in order to make the determination." Existing 30 CFR 785.19(a)(2) requires regulatory authorities make a "written determination as to the extent of any alluvial valley floors within the area," finding that an AVF exists if it finds that "unconsolidated streamlaid deposits holding streams are present" and "there is sufficient water available to support agricultural activities as evidenced by the existence of current flood irrigation in the area in question, the capability of an area to be flood irrigated (based on evaluations of typical regional

agricultural practices, historical flood irrigation, streamflow, water quality, soils, and topography), or subirrigation of the lands in question derived from the ground-water system of the valley floor.”

Regulatory authorities may require additional data from permit applicants but are not required to reject data that does not meet minimum standards beyond “sufficient detail.” Some of the proposed changes to required baseline information on hydrology, geology, and aquatic biology within the permit area and adjacent area are applicable. We urge OSMRE to add paragraphs similar to proposed 30 CFR 780.19(a)-(f) and (j) to existing 30 CFR 785.19. The addition of these elements of baseline data collection requirements would set a more reliable floor for the quality of the “geologic, hydrologic, land use, soils, and vegetation data and analysis” by which a regulatory authority identifies AVFs. OSMRE should also clearly state that the above elements are merely a set of necessary, but not fully sufficient, standards to identify potential AVFs.

We are also quite concerned that OSMRE’s proposed changes to stream definitions, and, in some instances, the consequent reductions in required protections may cause material damage to the quantity and quality of water that supplies an AVF. Alluvial sediments in valley floors are fed by surface and groundwater. The quantity and quality of AVF water depends a great deal on the quantity and quality of surface and groundwater transported and contributed to the AVF by tributaries. This means that AVFs are susceptible to degradation from mining activities outside the limits of a single stream valley. In the West, even precipitation event-related discharge from a network of ephemeral or intermittent streams may contribute greatly to the recharge of subirrigated alluvial sediments. OSMRE admits as much in the Preamble:

Ephemeral streams may convey water to local storage compartments, such as ponds, shallow aquifers, and streambanks, and recharge regional alluvial aquifers, depending upon the frequency, duration, magnitude, and timing of precipitation events. These local storage compartments are important sources of water for maintaining baseflow in perennial streams. Streamflow typically depends on the delayed (i.e., lagged) release of shallow groundwater from local storage, especially during dry periods and in areas with shallow groundwater tables and pervious subsurfaces. Relative to their cumulative surface area, an inordinate amount of groundwater recharge occurs in headwater ephemeral and intermittent channels within arid drainage basins. Furthermore, in the southwestern United States, short-term shallow groundwater storage in alluvial floodplain aquifers, with gradual release into stream channels, is a major source of annual flow in rivers. [...]

Ephemeral streams are hydrologically connected to downstream waters via channels that convey surface and subsurface water in direct response to precipitation. Moreover, these streams are the defining characteristic of many watersheds in arid and semi-arid regions of the United States; thus serving a critical role in the maintenance of water resources.³

The most relevant change in stream definitions with regard to these concerns is the proposed removal of the area definition of intermittent streams, as discussed above. We expect this to result in the wholesale characterization of many intermittent streams as ephemeral streams. Under existing rules and some alternatives proposed for this rule, ephemeral streams may be disturbed by mining with few-to-no protections. We are concerned that the redefinition of intermittent streams would allow the disturbance of large tracts by mining

³ 80 Fed. Reg. 44452.

with detrimental consequences for the recharge of downstream AVF sediments. We urge OSMRE to review how changes in stream definitions would affect the protected qualities AVF.

- **OSMRE should rescind the proposed groundwater monitoring waiver in proposed 30 CFR 784.23(a)(4).**

OSMRE proposes to allow an operator to apply for an exemption from monitoring a particular water-bearing stratum if the operator can prove to the regulatory authority that the “water-bearing stratum in the proposed permit and adjacent areas has no existing or foreseeable use for agricultural or other human purposes or for fish and wildlife purposes and does not serve as an aquifer that significantly ensures the hydrologic balance within the cumulative impact area.” The scarcity of surface water in the West places an even greater importance on groundwater sources. The agricultural operations of many of our members would not be possible without supplementing surface water with groundwater. We do not believe that coal operators are necessarily in a position to credibly determine “reasonably foreseeable uses” of any particular aquifer for either human or fish and wildlife. The language of proposed 30 CFR 784.23(a)(4) opens the door to exceedingly narrow interpretations of foreseeable uses for agricultural or other human purposes, not to mention fish and wildlife purposes. Also, if connections between elements of the hydrologic balance are not adequately characterized during baseline data collection, notwithstanding OSMRE’s proposed improvements discussed above, there will not be adequate data to substantiate a determination of whether the aquifer significantly ensures the hydrologic balance of the area. We fear that regulatory authorities may grant exemptions from the requirement to monitor certain aquifers even with inadequate data availability or despite the protestations of landowners and water users. Recent experience with the Linc Energy aquifer exemption in Wyoming suggests that regulatory authorities do not always protect reasonably foreseeable uses of an aquifer. As the monitoring exception proposed at 30 CFR 784.23(a)(4) is subject to abuse, OSMRE should strike it from the final rule.

- **OSMRE should make submission of digital permit materials mandatory and also require high- and low-resolution file versions (30 CFR 777.11).**

OSMRE proposes to revise existing 30 CFR 777.11(a)(3) to require that permit applications be filed in an electronic format prescribed by the regulatory authority unless the regulatory authority grants an exception to this requirement for good cause. OSMRE also proposes to add a new paragraph 30 CFR 779.24(c) to clarify that the regulatory authority may require that the applicant supply all maps, plans, and cross-sections that are submitted pursuant to paragraph 30 CFR 779.24 in a digital format that includes all necessary metadata. OSMRE invites comment on whether the digital format option should instead be mandatory to facilitate review by both the public and the regulatory authority.

We believe digital file submission should be mandatory. Access to digital files facilitates the acquisition of permit files by coalfield residents as files can be transferred via the internet instead of residents having to make a lengthy trip to the office of the regulatory authority. Digital files also facilitate the review of permit materials by the public as the maps, plans, and cross-sections submitted in a permit application, revision, or renewal are frequently printed on large-format paper that is difficult and expensive to copy without subjecting the original to wear and tear. Some regulatory authorities, including those in Wyoming, allow members of the public to make copies of large-format printed files free of charge, but the process is time-consuming and does

not always result in high-quality scanned files. Mandatory submission of digital permit materials would greatly facilitate public participation in the regulatory process, a stated goal of SMCRA.

Digital permit files are frequently very large in size. Relying on internet transfer, though helpful in many instances, does not ensure that all coalfield residents will be able to access those files as rural internet service is inconsistent and frequently of limited bandwidth. Digital permit files should be available for download on a document-by-document basis. Releasing permit files only in large file format may not allow persons with computers that have slow processor speeds the ability to open the files without having their computers “crash” repeatedly. OSMRE should also consider including a paragraph under proposed 30 CFR 779.24 that requires digitally submitted maps, plans, and cross-sections to be made available in high-definition and low-definition versions. Additionally, digital permit files should be available on compact disc and flash-drive to the public upon request.

Additionally, the regulatory authority should be required to keep a list of all amendments submitted by the permittee and approved by the agency that can be provided, upon request, to the public. The permit is often a “moving target,” and can change substantially through time with only the permittee and the agency tracking the changes. We believe that the above additions will further expand the access and public participation in permit proceedings.

- **OSMRE should require that cross-sections of permit-area groundwater resources correspond to collected baseline data (30 CFR 779.24, 780.19, 784.19).**

Proposed 30 CFR 779.24(a)(19) requires operators to submit a map of “the location and extent of subsurface water, if encountered, within the proposed permit and adjacent areas. This information must include, but is not limited to, the estimated elevation of the water table, the areal and vertical distribution of aquifers, and portrayal of seasonal variations in hydraulic head in different aquifers.”⁴ The paragraph allows operators to display this information on appropriately scaled cross-sections. The proposed paragraph does not, however, specify that quantitative data must be visualized in the cross-sections.

Proposed 30 CFR 780.19(b)(6)(iii) would require that the permit applicant take baseline data to establish seasonal variations in groundwater levels and to establish a comprehensive baseline for groundwater availability. However, the proposed paragraph does not require that this data be presented beyond text or in a table.

OSMRE should require that collected data under proposed 30 CFR 780.19(b)(6)(iii) and 784.19(b)(6)(iii) be visualized in the cross-sections, maps, or other visual exhibits required under proposed 30 CFR 779.24(a)(19). This would improve understanding of the data contained within the permit materials and would satisfy the public participation requirements of SMCRA.

- **Ephemeral streams should receive protections as do perennial and intermittent streams (80 Fed. Reg. 44451).**

⁴ See 80 Fed. Reg. 44595.

OSMRE solicits comment on the degree of protections the proposed rules should afford ephemeral streams.⁵ We believe OSMRE should adopt the most protective alternative. As mentioned in the Preamble, a recent literature review of more than 1,200 peer-reviewed studies by the U.S. Environmental Protection Agency emphasizes that ephemeral streams are an important component of headwaters streams and that they have an effect on the form and function of downstream channels and aquatic life.

The literature review highlighted five principal contributions of ephemeral streams to the hydrologic balance: providing stream flow to larger streams; conveying water into local storage compartments such as ponds, shallow aquifers, or streambanks that are important sources of water for maintenance of the baseflow in larger streams; transporting sediment, woody debris, and nutrients; providing the biological connectivity that is necessary either to support the life cycle of some invertebrates or to facilitate the transport of terrestrial invertebrates that serve as food resources in downstream communities; and influencing fundamental biogeochemical processes such as the assimilation and transformation of nitrogen that may otherwise have detrimental impacts on downstream communities.

We believe these findings speak for themselves. Ephemeral streams are an essential element constituting the hydrologic balance and, as such, are an integral part of arid landscapes in the West. We believe they should be fully protected.

- **Permit application materials should specify that a description of soil depths should consider all soil horizons individually 30 CFR 779.21, 783.21).**

Proposed 30 CFR 779.21(c) and 783.21(c) require “a description of soil depths within the proposed permit area.” As expressed in the Preamble, soils are not homogenous throughout their depth, but are composed of distinguishable horizons. SMCRA recognizes the ecological value of topsoil,⁶ and proposed 30 CFR 816.22 differentiates between topsoil and subsoil. However, a soil characterization scheme of topsoil—subsoil—parent material (i.e., bedrock), does not necessarily ensure that the ecological function of topsoils are conserved. Mischaracterizing subsoil horizons as topsoil would allow poorer quality soils to be mixed with biologically vibrant topsoils during stockpiling. This may pose obstacles to successful revegetation during a mine’s reclamation activities. The description of soil depths required in proposed 30 CFR 779.21(c) and 783.21(c) should differentiate between the relative depths of different soil horizons (O, A, E, B, C, and R, as applicable) to ensure that soils are properly characterized and segregated. We also urge OSMRE to require a visual reference, such as soil cores or photos from soil surveys, alongside the text description of soil depths required in proposed 30 CFR 779.21(c) and 783.21(c).

- **OSMRE should rescind proposed retention of modified highwalls (30 CFR 816.102).**

Proposed paragraph 30 CFR 816.102(a)(3)(iv) would allow operators to retain modified highwall segments to the extent necessary to replace similar natural landforms removed by the mining operation. OSMRE also solicits comments on a proposal to include provisions approved for the New Mexico and Utah regulatory programs under this paragraph.⁷

⁵ See 80 Fed. Reg. 44451.

⁶ See 30 U.S.C. §515(b)(5)

⁷ See 80 Fed. Reg. 44569.

Highwalls are not an indigenous element of the landscape of the Great Plains and are not an appropriate addition to the landscape there for many reasons. We do not believe that highwall retention enhances “fish, wildlife, and related environmental values,” as required under Section 515(b)(24) of SMCRA, in areas where no highwalls exist pre-mining. While highwalls may create habitat conducive to some raptors and cliff-dwelling wildlife, retained highwalls may also pose a danger to livestock and grassland wildlife. We are also unaware of any evidence to suggest that the structural integrity of highwalls will not be compromised through time due to weathering and hydrologic effects from retaining an exposed face of overburden strata, which usually contain water-bearing formations. These concerns are heightened due to the friable sedimentary geology of overburden materials in the Great Plains.

We therefore urge OSMRE rescind proposed paragraph 30 CFR 816.102(a)(3)(iv). If OSMRE does not rescind the paragraph, regulatory authorities should be required to provide public notice of any company’s permit application, revision, or renewal that proposes to retain modified highwalls pursuant to proposed 30 CFR 816.102(a)(3)(iv), and, subsequently, hold a public hearing and comment period on the company’s proposal. Residents and neighbors deserve to be heard on whether or not a new and unanticipated geomorphic element should be introduced into their landscape as a result of mine reclamation. The local residents and neighbors will be affected most directly from any impacts of this decision. Additionally, OSMRE should require that no retained highwall be longer than natural for the area, and should have trails built into it at intervals to allow passage for wildlife and livestock.

- **Definition of “Adjacent Area” should be expanded to account for the immense size of strip mines in the West (30 CFR 701.5).**

The proposed redefinition of “adjacent area” in proposed 30 CFR 701.5 would broaden the existing definition to ensure that it includes all areas outside the proposed or actual permit area within which there is a reasonable possibility of adverse impacts from surface coal mining operations or underground mining activities. OSMRE rightly points out that if mining impacts were to occur beyond the area where impacts were almost certain to occur, then there would be no baseline data with which to compare monitoring data and, thus, evaluate damage or trigger remediation.

The Preamble invites comment on whether the definition of “adjacent area” should prescribe a more appropriate minimum size for the adjacent area with regard to surface-water resources and, if so, how that minimum size should be determined. The Preamble also discusses a paragraph considered and discarded prior to publication that required the “adjacent area” include, at a minimum, the hydrologic unit twelve-digit code (HUC-12) watershed(s) in which the proposed or actual permit is located. OSMRE’s reasoning for discarding the referenced paragraph involved concerns that surface-water data collected up-gradient of the (proposed) operation would be of little value in making permitting decisions or evaluating the impacts of mining and that HUC-12 watersheds were substantially larger than the area necessary or appropriate to establish baseline conditions for “most coal mines, which are only tens or hundreds of acres in size.”

We emphatically disagree. Many coal mines in the West are orders of magnitude larger than “tens or hundreds of acres,” and the largest mines have permitted acreage larger than entire HUC-12 watersheds.⁸ The relevant HUC-12 watersheds are, in fact, an appropriate minimum “adjacent area” for mines in the West. We

⁸ For example, Peabody Energy’s North Antelope Rochelle Mine has a permitted acreage in excess of 50,000 acres.

also emphasize that surface water data collected up-gradient of the (proposed) operation is of unique and vital importance to protect up-gradient landowners and water users, and, therefore, should receive baseline measurement. We believe this would better achieve OSMRE's goal of ensuring that the "adjacent area" includes all areas within which there is a "reasonable possibility of adverse impacts from surface coal mining operations or underground mining activities, as applicable." In delineating the "adjacent area" for a (proposed) operation, regulatory authorities should be required by OSMRE regulations to consider complex relationships between surface morphology and subsurface geology that can create situations where surface water drains in a different direction than groundwater.

We recommend OSMRE define "adjacent area" for surface mines in the West at the minimum HUC-12 level. If OSMRE does not redefine "adjacent area" as such, we recommend following the 2002 OSMRE reference document on baseline data mentioned in the Preamble that recommends that the adjacent area for surface water include both the surface-water runoff drainage area for the proposed operation and at least the next higher-order drainage area.⁹ The immense scale of western strip mines can be a factor in serious depletion of water resources critical to neighboring ranchers in the West, and, therefore, requires monitoring of a larger "adjacent area" than provided for in the proposed definition.

- **Vigorous self-bonding reforms are required to fulfill the mission of OSMRE (30 CFR 800.23).**

OSMRE proposes minor changes to the self-bonding regulations in proposed 30 CFR 800.23 that would bring the regulations into accordance with the Credit Rating Agency Reform Act of 2006.¹⁰ However, there is a pressing need to reform these rules more comprehensively, particularly in light of the dramatic decline of the western coal industry's financial stability and inadequacy of self-bonds in a time of major coal company bankruptcies. While we recognize that such changes are beyond the scope of the present rulemaking, we do not believe self-bonding is appropriate under the present conditions for most companies, as we have made clear in meetings with OSMRE staff.

Attachments

We are submitting the following documents that support our foregoing comments:

1. Norris, Charles H. "Hydrologic Protections within the Federal Surface Mine Control and Reclamation Act." Whitepaper produced for the Western Organization of Resource Councils. 31 Aug 2014. 28 pp. Available online: http://underminedpromise.org/Appendix-A_Hydrologic_Protections_SMCRA.pdf
2. "Cumulative Hydrologic Impact Assessment of the Youngs Creek Mine, Upper Tongue River Basin, Wyoming." Wyoming Department of Environmental Quality, Land Quality Division. June 2011. Scanned. First file pp. 1-81, second file pp. 82-98.
3. "Undermined Promise II." A report by the Western Organization of Resource Councils, the Natural Resources Defense Council, and the National Wildlife Federation. 9 Jun 2015. Available online: <http://underminedpromise.org/>

⁹ See 80 Fed. Reg. 44468.

¹⁰ See 80 Fed. Reg. 44539.

4. “Youngs Creek Mine Permit: Analysis of the Characterization of the Pre-Mining Hydrologic Balance.” Appendix B to Undermined Promise II. Western Organization of Resource Councils. Available online: http://underminedpromise.org/Appendix-B_Youngs_Creek_Mine.pdf
5. “Fact Sheet 1, Findings and Recommendations.” Fact sheet to “Undermined Promise II.” Western Organization of Resource Councils, Natural Resources Defense Council, National Wildlife Federation. 9 Jun 2015. Available online: <http://underminedpromise.org/UnderminedPromiseFS1.pdf>
6. “Fact Sheet 2, Self-Bonding.” Fact sheet to “Undermined Promise II.” Western Organization of Resource Councils, Natural Resources Defense Council, National Wildlife Federation. 9 Jun 2015. Available online: <http://underminedpromise.org/selfbonding-factsheet.pdf>

We commend OSMRE staff for the hard work that has gone into this important rulemaking, and we thank you for the opportunity to comment on it. OSMRE’s analysis shows that the Stream Protection Rule can be implemented with minimal impacts to mining companies and coal production. There is almost all benefit, and next to no cost, from adopting the proposal.

While some improvements to the rule are needed, we urge the agency to move forward with swift implementation of the Stream Protection Rule as a necessary step to protecting precious water resources in our western states.

Thank you for your time and attention.

Sincerely,

/s/ Bob LeResche

Bob LeResche

Chair, Western Organization of Resource Councils

Treasurer, Powder River Basin Resource Council

/s/ Steve Charter

Steve Charter

Chair, Northern Plains Resource Council

/s/ Don Morrison

Don Morrison

Executive Director, Dakota Resource Council

Enclosure