

October 16, 2015

Mr. John A. Trelease  
Office of Surface Mining Reclamation and Enforcement  
1951 Constitution Ave. NW, Room 203, SIB,  
Washington, D.C. 20240

By electronic submission

RE: Society for Mining, Metallurgy and Exploration, Inc. (SME) comments on the Office of Surface Mining, Reclamation and Enforcement's (OSMRE) proposed rule 30 CFR Parts 700, 701, 773, et al

Dear Mr. Trelease:

The Society for Mining, Metallurgy and Exploration, Inc. (SME) is an international society of professionals in the minerals and mining industry whose 15,000 members represent professionals serving the minerals industry in more than one hundred countries. SME members are engineers, geologists, metallurgists, educators, students and researchers. As a 501(c) (3), SME operates as a public nonprofit scientific and educational charity. SME advances the worldwide minerals community through information exchange and professional development.

The SME respectfully submits the following comments on the Office of Surface Mining, Reclamation and Enforcement's (OSMRE) proposed rule 30 CFR Parts 700, 701, 773, et al (Stream Protection Rule) as published in the *Federal Register* Vol. 80, No. 143 / Monday, July 27, 2015. Our comments are based on a review of the Stream Protection Rule, Draft Environmental Impact Statement and the Regulatory Impact Analysis.

Despite the considerable efforts by OSMRE to promulgate the proposed Stream Protection Rule, the proposed rule has a number of shortcomings in terms of technical accuracy and feasibility in implementing a nationwide rule. Our comments cannot be comprehensive due to the volume of information in the full text of the proposed Stream Protection Rule, Draft Environmental impacts statement, and Regulatory Impact Analysis relative to the limited review period. There may be deficiencies in the proposed Stream Protection Rule based on the Regulatory Impact Analysis that we were unable to identify due to insufficient time to review the complex proposed regulation and analysis. We may submit additional material for OSMRE to consider during the preparation of a final Stream Protection Rule.

The following sections contain our comments on Alternative 8 (Preferred) as described in the Draft EIS and the proposed Stream Protection Rule. We have also included comments on the relevant aspects of the RIA and the "model mine" analysis methodology and assumptions.

## Definitions

Key terms used in the proposed rule such as “ephemeral”, “riparian”, “biological condition” and “ecological condition” should be defined consistently with other relevant state and federal agency regulations. The application of these definitions does not appropriately address the hydrological, biological and ecological variations between the nine coal resource areas defined by OSMRE for promulgating the Stream Protection Rule.

The definitions used in the Stream Protection Rule need to consider monitoring requirements that reflect relevant regional and permit specific conditions. As defined for Alternative 8 (Preferred), the Stream Protection Rule would require:

“monitoring the biological condition of streams using a of a comprehensive, multi-assemblage, scientifically defensible bioassessment protocols to document the biological condition of all perennial and intermittent streams and a representative number of ephemeral streams within the proposed permit and adjacent areas over multiple seasons (at a minimum spring, summer, and fall).”

This general monitoring requirement does not recognize the biological and ecological variation in ephemeral streams across the seven coal regions defined by OSMRE for promulgation of the Stream Protection Rule. The monitoring requirement to prepare a scientifically defensible bioassessment of a representative sample of ephemeral streams for all areas does not appear to reflect the variation of the ecology and hydrology of ephemeral streams in the seven coal mining regions. The information used to prepare a scientifically defensible bioassessment should reflect conditions that are applicable to the area (Levick, Fonseca and Goodrich, 2006); (Hart, Kirk and Maggard, 2011).

Riparian areas vary widely in structure, vegetation composition, and distribution and are influenced by hydrological conditions (Merritt and Bateman, 2012); (Clinton, Vose and Knoepp, 2012). In the proposed Stream Protection Rule, Alternative 8 (Preferred) includes the following requirement:

“... the permittee must establish a 100-foot-wide or wider riparian corridor on each side of every perennial, intermittent, and ephemeral stream following the completion of mining activities. The corridor must be comprised of native species, including species with riparian characteristics.”

While this revegetation requirement does not apply to all areas, the proposed Stream Protection Rule does not establish a rationale for the 100-foot wide minimum. Absent a science-based rationale, the choice of a 100 foot wide minimum may either be too small or too large. Riparian buffers based on a fixed-width that are not based on the hydrological, ecological and biological relationships of riparian areas may not reflect the extent of the riparian area (Holmes and Goebel, 2011); (Brinson, M.M., MacDonnell and Austen, 2012). Fixed-width riparian area buffers can over or underestimate the riparian area in term of watershed function and condition (Holmes and Goebel, 2011).

Section 701.5 of the proposed Stream Protection Rule defines biological condition as “a measure of the ecological health of a stream or segment of a stream as determined by the type, diversity, distribution, abundance, and physiological state of aquatic organisms and communities found in the stream or stream segment.”

While page 44499 allows the regulatory authority to waive the biological condition information requirements, biological condition is “one measure” of a stream’s ecological condition. As noted in the proposed Stream Protection Rule there is an relationship between biological and ecological condition which is one of the metrics used to determine whether a mining-related activity can occur in or near any stream and by which the success of reclamation and restoration will be evaluated. It is unclear what would be then required in a permit application to demonstrate whether the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area, as required by sections 507(b) and 510(b)(3) of SMCRA.143.

For operations where the permit application is required to include a plan for monitoring, page 44506 of the *Federal Register* (c)(1) would require that each permit application include a plan for monitoring the biological condition of perennial and intermittent streams within the proposed permit area and the adjacent area. As described in the proposed Stream Protection Rule, this plan must be “adequate to evaluate the impacts” of the mining operation on the biological condition of those streams. Furthermore, the proposed Stream Protection Rule would also require the regulatory authority “to determine in a timely manner whether corrective action is needed to prevent the operation from causing material damage to the hydrologic balance outside the permit area.” These aspects of the proposed Stream Protection Rule assert there would be material damage if changes to the biological condition occurred onsite and that effects must also be occurring offsite in relation to mining operations. There are many offsite land use activities, both historical and current, such as timber harvest and agricultural uses, which can affect the biological condition of an area, making it difficult, and in many cases impossible, to determine which activity resulted in off-site effects. In addition, it is not a given that any and all onsite changes due to mining also result in offsite changes. We suggest OSMRE clarify in the proposed Stream Protection Rule that offsite biological conditions must be demonstrated to have been directly caused by mining operations in order for correctable actions to be required to the mining operations.

Proposed Stream Protection Rule page 44469 in paragraph (b) would require “the cumulative impact area include the HUC–12 (U.S. Geological Survey 12-digit Watershed Boundary Dataset) watershed or watersheds in which the actual or proposed permit area is located.” However, as stated in on page 44469 of the *Federal Register*, “the HUC–12 watersheds typically contain between 10,000 and 40,000 acres, which is much 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.” OSMRE does not demonstrate in the proposed Stream Protection Rule that a HUC-12 watershed as a minimum size is the best choice for the cumulative impact area in all regions of the country. We



believe it would be more appropriate to determine the cumulative impact area based on conditions at the mine site that consider site specific conditions.

#### Material damage to the hydrologic balance

Although the statute and current regulations prohibit material damage to the hydrologic balance outside the permit area, neither SMCRA nor the proposed Stream Protection Rule provides a definition of “material damage to the hydrologic balance outside the permit area.” Without a definition of what constitutes material damage, applicants may not be able to adequately design a proposed mining operation to prevent material damage, and the regulatory authority may have insufficient information to perform an objective review of the proposed design.

#### Use of Model Mines Approach

While it may be impractical to analyze the approximately 1,200 coal mines in the United States because the data would be far too large, the rationale for using production rates is inappropriate. As described in the Regulatory Impact Analysis (RIA), estimates of the potential impact on water resources is based on the highest production rates of mines in a region by mine method. The model mine approach does not accurately predict impacts in relation to different sizes of mining operations. The model mine approach determines a particular type and size of representative mine for one of the six defined coal regions in the United States, and assesses environmental impacts for all mines in the region. This analysis then is used to determine impacts to the coal regions. However, within each coal region the mines produce less than the model mine selected to represent the region. For example, in Central Appalachia seven top producing surface mines produced 16.2 million short tons (23% of the regional total from surface mines) in 2012, the year from which production data for the analysis was used.

Using the production rates of seven mines that generate less than 25% of the total production from the defined Central Appalachia coal production region likely will overestimate the average regional production rate and environmental risk, while underestimating the additional costs incurred by mine operators and regulatory programs and impacts to the number of jobs lost. The analysis for the other coal regions uses the same method and analytical assumptions as those described in our comments regarding the model mine for the Central Appalachia coal production region. Similar conclusions on the estimate of production rates, environmental risks, additional costs and potential economic impacts are similar for the other coal producing regions defined by OSMRE. While we have only described the concerns with the model mine approach described in the Regulatory Impact Analysis (RIA) for Central Appalachia, the model mine approach for the other coal regions are based on similarly deficient analytical assumptions.

Another example from the RIA, Appendix B, page 26, states, “The stripping ratios and coal unit weights were also cross-referenced with representative permits to ensure the model mines accurately represent the regions.” Cross-referencing stripping ratios and coal unit weights with the representative permits does not ensure the model mines accurately represent the regions. This

analysis is limited and more accurately demonstrates that the model mines match the selected permits rather than determining the accuracy of the model mines.

For purposes of assessing environmental impacts, surface disturbance in acres per year would be a more appropriate measure than production rate. Basing potential environmental and economic impacts on production rates does not adequately consider environmental and economic conditions. The model mines have a higher production rate than the majority of mines in a given coal region. This higher production rate underestimates the cost per ton the rule may have on mines that produce less than the model mine. We are concerned that using the overestimated production rates in the model mine analysis provides an inadequate and inappropriate basis for the environmental and economic analysis included in the Draft Environmental Impact Statement. We believe it is not appropriate for OSMRE to base the model mine solely on production if the intent of the model mine is to assist with assessing environmental and economic impacts.

We recognize the significant efforts taken by OSMRE in developing these formal rulemaking draft regulations in an effort to protect United States water resources. We appreciate the opportunity to comment on this formal rulemaking draft and look forward to the next draft that takes into consideration our concerns. We firmly believe that all potentially affected stakeholders should be fully informed of any federal action related to the development and production of coal resources. We thank you for your efforts to address this important issue. SME would respectfully request OSMRE to extend the comment period again. Ninety days is an insufficient time to review such a sweeping change in regulations, especially considering the obvious technical shortcomings already discovered. SME would also respectfully request that OSM properly engage all of the state regulatory agencies in the process since they are severely impacted by the unfunded mandates of the rule. In short, the rule is unworkable in its present form.

Sincerely,



David L. Kanagy, CAE  
Executive Director

## References

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