

Environmental Impact Study Excess Spoil Minimization - Stream Buffer Zones

Proposed Revisions to the Permanent Program Regulations Implementing the Surface Mining Control and Reclamation Act of 1977 Concerning the Creation and Disposal of Excess Spoil and Coal Mine Waste and Stream Buffer Zones

EIS Number: OSM-EIS-34

Summary

The Office of Surface Mining Reclamation and Enforcement (OSM) is considering revising its permanent program regulations pertaining to excess spoil generation and placement, and stream buffer zones. OSM intends that these regulatory changes will lessen the adverse environmental effects stemming from excess spoil fill construction and reduce uncertainty regarding the requirements of the existing stream buffer zone rule.

The adoption of permanent program regulations under the Surface Mining Control and Reclamation Act of 1977, 30 U.S.C. 1201-1328 (SMCRA) is a major Federal action that requires NEPA analysis. [30 U.S.C. 1292(d)]

On January 7, 2004, OSM published in the Federal Register proposed rules concerning excess spoil minimization and stream buffer zones (69 FR 1036). At that time, OSM announced that a draft environmental assessment (EA) for the proposed rule was prepared in accordance with NEPA and was available for public review. OSM also stated that based on the draft EA it tentatively concluded that the regulatory changes being considered would have no significant impacts on the human environment and that a finding of no significant impact (FONSI) would likely be prepared.

After many comments and further consideration, OSM decided to further analyze the potential effects on the human environment from the Federal action contemplated.

On June 16, 2005, OSM announced in the Federal Register (70 FR 35112) that the agency would prepare an environmental impact statement (EIS) to analyze the effects of the action, and asked the public for suggestions on the issues and reasonable alternatives to be considered. Public meetings were held in Knoxville, Tennessee on August 22; Hazard, Kentucky on August 23; Charleston, West Virginia on August 24, and Pittsburgh, Pennsylvania on August 25. In all, approximately 150 people attended the meetings, and OSM received over 160 written comments and suggestions.

Based on the input from the public, OSM formed an interdisciplinary team to examine the issues that OSM had concluded were relevant to this action and to consider reasonable alternatives consistent with the purpose and need for this action. After giving considerable thought to the matter, OSM decided to examine the environmental effects of five alternatives:

- "No Action" Alternative – OSM would not adopt any new rules. The current regulations applicable to excess spoil generation and fill construction and the stream buffer zone would remain unchanged.
- Alternative 1 is OSM's preferred alternative and is also the most environmentally protective alternative—OSM would revise the regulations applicable to excess spoil generation and placement to further reduce the adverse environmental effects stemming from excess spoil fill construction. OSM would require the applicant for a permit to conduct surface coal mining operations to demonstrate that the operation would avoid the generation of excess spoil, or if that is not practicable, that the volume of excess spoil would be minimized. OSM would require that excess spoil fills be designed and constructed to be no larger than needed to accommodate the anticipated excess spoil. Finally, OSM would require the applicant to consider various alternative spoil disposal plans in which the size, numbers, and locations of the excess spoil fills vary, and to submit an analysis showing that the preferred excess spoil disposal plan would result in the least adverse environmental impact.

Similarly, OSM would revise its coal waste disposal regulations to require permit applicants to describe the steps to be taken to minimize the adverse environmental effects and identify and analyze the environmental effects of alternative disposal methods and potential locations.

OSM would also revise the stream buffer zone regulation to clarify the kinds of coal mining activities that are subject to the rule. Surface mining and reclamation activities occurring adjacent to, but not in, streams, and temporary or permanent diversions of intermittent and perennial streams would be subject to the rule. Stream crossings, sedimentation ponds, permanent excess spoil, and coal waste disposal facilities would not be.

OSM would also revise the criteria for authorizing variances from the 100-foot buffer to more accurately reflect the statutory basis for the rule. The stream buffer zone is principally based on two SMCRA provisions: sections 515(b)(10)(B)(i) and 515(b)(24). The first provision requires, among other things, that surface coal mining operations be conducted so as to prevent, to the extent possible using the best technology currently available, additional contributions of suspended solids to streamflow or runoff outside the permit area. The second provision, section 515(b)(24), requires that, to the extent possible using the best technology currently available, surface coal mining and reclamation operations must minimize disturbances and adverse impacts of the operation on fish, wildlife, and related environmental values, and achieve enhancement of such resources where practicable. Variances to use of a 100-foot buffer zone as BTCA could be authorized if equally or more effective alternative means to achieve the standards of sections 515(b)(10)(B)(i) and (24) would be used.

Finally, OSM would also extend coverage of the requirement of a 100-foot buffer zone to other water bodies in addition to streams, so as to apply the rule to lakes, ponds, and adjacent wetlands (to the extent those water bodies constitute waters of the United States under the Clean Water Act).

As a variant of this alternative, OSM would largely retain the existing buffer zone rule language at 30 CFR 816.57(a) and 817.57(a), but would modify the criteria for allowing a variance of the 100-foot buffer: The first modification would retain the current criteria that requires that the regulatory authority find that the "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," but defer to the appropriate Federal and State Clean Water Act agencies in accordance with sections 401, 402, or 404 to make this determination. The second modification would replace the phrase "adversely affect" with "significantly degrade."

- Alternative 2 – OSM would revise the regulations applicable to excess spoil generation and placement as discussed above in alternative 1. OSM would revise the stream buffer zone regulations to clarify the conditions under which we would grant a stream buffer zone waiver. OSM would only grant a waiver if it is demonstrated to its satisfaction that other best technology currently available would be used to prevent additional contributions of suspended solids to stream flow or runoff outside the permit area in excess of the requirements set by applicable State or Federal laws and to minimize the adverse impacts to stream water quality and quantity, fish, wildlife, and related environmental resources. This alternative closely aligns with the proposed rule published on January 7, 2004.
- Alternative 3 -- OSM would revise the regulations applicable to excess spoil generation and placement as discussed above in alternative 1. OSM would not change the stream buffer zone rule under this alternative.
- Alternative 4 -- OSM would revise the stream buffer zone regulation as described in alternative 1. OSM would not change the regulations applicable to excess spoil generation and placement.

Table S-1 is a comparison of the anticipated impacts of key indicators of the four possible alternatives to the no action alternative. Impacts are compared for individual indicators could range from -10 to +10. Negative 10 would indicate an extreme negative impact as compared to the "no action" alternative; a zero, no impacts; and +10, an extreme positive impact. A three (3) represents a relatively minor impact. For further context, a moderate and significant impact would be negative or positive five (5) and eight (8) respectively. The aggregated impact is shown only for the purpose of identifying the most environmentally protective alternative; the numerical scale should not apply to the aggregate impact. Alternative 1 represents the most protective alternative and the

impacts of Alternative 4 would close mimic the “no action alternative. Section IV.B, discusses the rationale behind this summary table in more detail.

Table S-1 – Summary comparison of the impacts of four alternatives with the impacts of the “No Action” alternative

Impacts	Comparison with Impacts of the No Action Alternative [†]			
	Alternative 1 (Preferred)	Alternative 2	Alternative 3	Alternative 4
1. Hydrology				
a. Direct impacts	+2	+1	+1	0
b. Water quality	+2	+1	+1	0
c. Flooding	-3 to +3	-3 to +3	-3 to +3	0
2. Aquatic fauna				
a. Direct impacts	+2	+1	+1	0
b. Indirect impacts	+2	+1	+1	0
3. Terrestrial fauna	+2	+1	+1	0
4. T & E Species	+2	+1	+1	0
5. Geotechnical	0	0	0	0
6. Economics	0	0	0	0
7. Culture	0	0	0	0
8. Environmental justice	+1	+1	+1	0
9. Cumulative	0	0	0	0
Aggregated impact	∑+10 to +16	∑+4 to +10	∑+4 to +10	∑ 0

† For our comparison, impacts compared for individual indicators could range from -10 to +10. Negative 10 would indicate an extreme negative impact as compared to the “no action” alternative; a zero, no impacts; and +10, an extreme positive impact. A three (3) indicates a relatively minor impact. The aggregated impact is shown for the purpose of identifying the most environmentally protective alternative.

After examining the specific environmental factors of each of the alternatives, we conclude the following. As compared with the “no action” alternative, the changes in requirements for excess spoil generation and placement under action Alternatives 1, 2, and 3 would result in slight positive effects on the human environment. The positive effects of any of these action alternatives would be limited, because of two factors. First, although the action alternatives would apply nationwide, the generation of excess spoil primarily occurs in the steep terrain of the coal fields of eastern Kentucky, southwestern Virginia, southern West Virginia, and Tennessee. Second, Kentucky, Virginia, West Virginia, and OSM in Tennessee have already implemented some controls to reduce the volume of excess spoil and resulting adverse environmental effects. However, although relatively few excess spoil fills are constructed in Alabama, Alaska, Colorado, Ohio, Pennsylvania, Tennessee, and Washington, some positive environmental effects from action Alternatives 1, 2, and 3 might be realized in these states.

We conclude that, as compared with the “No Action” alternative, the changes in requirements for the stream buffer zone rule under action Alternatives 1, 2, and 4 would result in no additional positive or adverse on-the-ground environmental effects. Extending the protection of the buffer zone requirements to lakes, ponds, and adjacent wetlands (to the extent those water bodies are waters of the United States). under Alternative 1 would result in slightly positive environmental effects. As a whole, alternative 1, which is the preferred alternative, would also be the most environmentally protective alternative.

Under the current stream buffer zone regulation, the length of streams permanently or temporarily directly impacted will be considerable. Approximately 535 miles of intermittent and perennial streams will be temporarily or permanently affected nationwide just from surface coal mining operations permitted from October 1, 2001 to June 30, 2005. We do not anticipate that revision of the stream buffer zone as described in the alternatives would cause additional stream disturbance as compared to the “No Action” alternative.

In summary, the statutory performance standards underlying the stream buffer zone rule require surface coal

mining operations to use the best technology currently available to prevent to the extent possible additional contributions of suspended solids to stream flow outside the permit area; and to minimize disturbances and adverse impacts on fish, wildlife, and related environmental values. As described below in the discussion of the purpose and need for this action, the alternatives considered in detail would all implement these requirements in varying ways. Other statutory and regulatory requirements independent of this action, including other requirements implementing the same SMCRA provisions, such as, but not limited to, requirements to minimize disturbance of the hydrologic balance within the permit area, and to prevent material damage to the hydrologic balance outside the area, will continue to apply regardless of which alternative might be selected.

Currently, surface coal mining and reclamation operations are being conducted in 26 states. These operations include the extraction of coal by various mining methods, reclamation, and other surface activities in connection with coal mining, including but not limited to, the construction of access roads, impoundments, dams, ventilation shafts, entryways, refuse banks, spoil banks, coal stockpiles, and processing and shipping areas. While OSM is considering alternatives for changes to its regulations that are national in scope, there are two important factors that must be kept in mind when evaluating the potential impacts of the alternatives. First, of the 26 coal producing states, only two -- Tennessee and Washington -- have federally administered SMCRA programs. The remaining 24 states have "primacy," which means that these states regulate coal mining primarily pursuant to their respective approved State regulatory programs. These 24 states may or may not elect to amend their State programs to reflect the changes, unless OSM determines that states must make such changes in state programs to be no less effective than the Federal requirements. After a detailed review of the State program, the Director will determine which States will be notified that a change will be necessary.

The second factor involves physical elements that narrow the geographic extent of the proposed changes. Excess spoil is typically generated where surface coal mining activities are conducted in steep terrain. With a few exceptions, excess fill construction is limited to the central Appalachian coal field states. Similarly, most direct stream effects occur in the Appalachian coal field states, although notable lengths of streams are also affected in Texas, Wyoming, and Washington.

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