

FEDERAL REGISTER: 45 FR 36901 (May 30, 1980)

DEPARTMENT OF THE INTERIOR

AGENCY: Office of Surface Mining Reclamation and Enforcement (OSM)

30 CFR 716.17, 717.17, 816.42, 816.46, 817.42, and 817.46

DOI-OSM Discharge from Mine Areas: Revision of Standards for Effluent Limits and Sedimentation Ponds

Legal Authority Surface Mining Control and Reclamation Act of 1977, 30 U.S.C. Sec. 1201 *et seq.*

SUMMARY:

REASON FOR INCLUDING THIS ENTRY

The Department of the Interior (DOI) considers these rules to be of general public interest because they concern the environment and the public health and safety, and because they will help to improve the quality of the waters of the United States.

STATEMENT OF PROBLEM

On December 13, 1977, the Office of Surface Mining (OSM) published initial regulations for control of sediment in discharges from areas of surface coal mining and reclamation activities, and on March 13, 1979, published final regulations. The rules established specific limitations -- called "effluent limitations" -- on the total suspended solids (TSS) iron and manganese content of the discharges from the mining area. The rules also required that all runoff be passed through sedimentation ponds and established minimum design criteria for these ponds. Essentially, sedimentation ponds improve the quality of discharges by detaining runoff until heavier particles settle to the bottom of the pond.

The TSS limitations were essentially the same as those established by the Environmental Protection Agency (EPA) on April 26, 1977, (42 FR 21380), and on January 12, 1979, (44 FR 2586). EPA's regulations were promulgated pursuant to the Clean Water Act, 33 U.S.C. Sec. 1251 *et seq.* OSM's pond design criteria were based on the best technical information available when the OSM regulations were published. Six months after publication of the final regulations, however, two studies -- one conducted by Skelly & Loy under contract to EPA and the other by D'Appolonia under contract to OSM -- indicated that discharges from ponds designed to meet OSM's design criteria might not be able to meet the TSS effluent limitations during large precipitation events.

On the basis of these studies, a petition was filed with the Secretary of the Interior to suspend immediately the TSS effluent limitations and sedimentation pond design criteria. The petition was published in the Federal Register (October 18, 1979, 44 FR 60226-60230), and a public comment period followed. EPA also solicited comments on the studies during the same period and, on December 28, 1979, amended its effluent limitation regulations. The amendment granted an exemption from compliance with the effluent limitations during rainfall events to operations whose facilities are designed, constructed, and maintained to treat or contain a 10-year/24-hour rainfall event.

On December 31, 1979, OSM suspended certain of its regulations and also published an NPRM. On January 30, 1980, OSM adopted EPA's amended effluent regulations, including EPA's rainfall exemption from the effluent limitations.

EPA expects to publish proposed TSS regulations by October, 1980, and final regulations by April 1981. These will be based on an ongoing EPA field study of representative sedimentation ponds across the country. Consequently, OSM will postpone further rulemaking pertaining to these issues until sufficient data from this study are available for use in revising the OSM resedimentation pond design criteria, if that should be necessary.

ALTERNATIVES UNDER CONSIDERATION

Option (A): OSM would re-adopt its present regulations, including the effluent limitations and the sedimentation pond design criteria.

This option will comply with the mandate of the Act by improving the quality of the waters entering the receiving stream. However, as the Skelly & Loy and D'Appolonia studies have indicated, operators may not be able to comply with the effluent limitations during large rainstorm events, even with ponds conforming to the design criteria.

Option (B): OSM would adopt a rainfall exemption modified either to increase or decrease the size of the precipitation event to which the exemption is keyed -- 10-year/24-hour at present -- but would re-adopt the effluent limitations and sedimentation pond design criteria.

This option will comply with the mandate of the Act and give minimum national design standards for sedimentation ponds. This option will also protect and improve the Nation's waters and limit the additional contribution of TSS to the receiving stream. However, the studies have indicated that even with ponds designed to OSM standards, operators may exceed effluent limitations during large rainfall events. Furthermore, it would be hard to choose a rainfall event that would be technically acceptable nationwide, in light of the varied settling characteristics of the sediments.

Option (C): This option is the same as Option (B) except that the sedimentation pond design criteria would be modified to reflect the conclusions of the Skelly & Loy and the D'Appolonia studies.

This option has advantages and disadvantages similar to those of Option (B).

Option (D): OSM would re-adopt the effluent limitations, but would delete design criteria concerned with the size of sedimentation ponds and the efficiency of the structure. All other design criteria would be re-adopted including the requirement to install a pond. The sizing of the pond would be left to the operator and/or regulatory authority.

This option has advantages and disadvantages similar to those of Option (B). However, it will provide operators and regulatory authorities with greater flexibility in designing sedimentation ponds.

Option (E): OSM would re-adopt its effluent limitations and design criteria, but an exemption from the effluent limitations would be granted to structures conforming to OSM's design criteria. Special design criteria for steep slope areas will be proposed.

One of the advantages of this option is that it will help protect the Nation's waters while giving relief to operations on steep slope areas. A disadvantage is that, according to the Skelly & Loy and D'Appolonia studies, the effluent limitations may be exceeded during rainfall events even with ponds designed to OSM design standards.

Option (F): OSM would re-adopt all sections of the regulations on sedimentation ponds as they existed prior to suspension, except for sections dealing with effluent limitations and rainfall exemptions. These sections would be deleted and replaced by new regulations incorporating rainfall and TSS effluent limitations to be promulgated by EPA under 40 CFR 434.

By adopting EPA's effluent limitations, OSM would comply with the requirements of the Act. However, as stated previously, re-adoption of the sedimentation pond design criteria will not ensure that the effluent limitations will be met at all times.

Option (G): OSM would re-adopt the current effluent limitations and apply them only to base flow (discharges during non-rain periods). OSM would adopt a rainfall event effluent limitation to be promulgated by EPA based on field data presently being gathered. Based on the rainfall event effluent limitations, OSM would develop minimum nationwide sedimentation pond design standards.

This option is currently being considered as the most feasible. It is known that the existing effluent standards are achievable during non-rain periods. EPA is collecting field data throughout the Nation and sampling the influent and effluent from sedimentation ponds before, during, and after rainstorms. Once the data are analyzed, nationwide effluent standards for rainstorms can also be promulgated. This two-tier effluent standard system will give maximum protection to the Nation's waters without imposing an undue burden on operators.

SUMMARY OF BENEFITS

Sectors Affected: The coal mining industry; users of water downstream from coal mining and reclamation operations; and the general public.

There will be a significant improvement in the quality of the Nation's waters due to improvement in the discharges from sedimentation ponds. This will benefit all downstream users, improve the aesthetics of streams receiving discharges from coal mining and reclamation operations and give coal operators guidance on how to comply with the Act, eliminating confusion which they now experience.

The cost of treating water for human consumption will decrease, though the exact amount is not yet known. Pathogenic water-borne organisms will decrease by an amount not yet known. Fish as well as organisms living on stream and lake bottoms will be subject to less man-caused pollution. In summary, the quality of life will be improved.

SUMMARY OF COSTS

Sectors Affected: The coal mining industry; users of coal as a fuel; and the general public.

We have not prepared a formal Regulatory Analysis of all the alternatives. An informal Regulatory Analysis shows that the production-weighted average national cost in incremental cents per ton of constructing sediment ponds designed to OSM specifications is \$0.16 for surface mining and \$0.02 for deep mining. There is a distinct possibility that this average cost might decrease when OSM promulgates new regulations because required sedimentation pond size might be smaller. OSM does not envision an increase in these figures. Because these costs are relatively insignificant compared to the cost of a ton of coal (roughly \$22), no decrease in coal mining operations is expected. Moreover, as coal becomes more desirable as a fuel, it is expected that more will be mined.

It is difficult to assess how much more the users of coal will pay because of the regulations.

RELATED REGULATIONS AND ACTIONS

None reported.

ACTIVE GOVERNMENT COLLABORATION

OSM is actively coordinating its rulemaking efforts with EPA, which has the responsibility for regulating all discharges to the Nation's waters. The agencies will work together in promulgating regulations.

TIMETABLE

ANPRM -- September 1980

NPRM -- October 1, 1980

Public Hearings -- between October 1980 and December 1980

Final Rule -- April 1, 1981

Final Rule Effective -- May 1981

AVAILABLE DOCUMENTS

42 FR 62639-62716, December 13, 1977

44 FR 14901-15463, March 13, 1979

44 FR 30610-30634, May 25, 1979

Evaluation of Performance Capability of Surface Mine Sediment Basins, Skelly & Loy, August 3, 1979

Evaluation of Sediment Pond Design Relative to Capacity and Effluent Discharge, D'Appolonia, August 3, 1979

Petition filed with OSM by the National Coal Association/American Mining Congress (NCA/AMC) Committee on Surface Mining Regulations, September 21, 1979

44 FR 60226-60228, October 18, 1979

Comments on the NCA/AMC Petition (fifty).

44 FR 77447-77454, December 31, 1979

44 FR 77456-88457, December 31, 1979

45 FR 6813, January 30, 1979

Comments on NPRM for sedimentation ponds (45 FR 6913)

Final Regulatory Analysis, Permanent Regulatory Program of the Surface Mining Control and Reclamation Act of 1977, OSM-RA-1