FEDERAL REGISTER: 48 FR 21446 (May 12, 1983)

DEPARTMENT OF THE INTERIOR
AGENCY: Office of Surface Mining Reclamation and Enforcement (OSM)

30 CFR Parts 716, 779, 783, 785, and 823
Surface Coal Mining and Reclamation Operations; Initial and Permanent Program Regulations: Prime Farmland

ACTION: Final rule.

SUMMARY: The Office of Surface Mining Reclamation and Enforcement (OSM) is amending the special initial and permanent program permit application and performance standard rules for surface coal mining and reclamation operations on prime farmland. These rules will reduce the burden of previous rules, minimize duplication, comply with court orders, and provide for internal consistency by: (1) Combining the reconnaissance-inspection requirements with the permit-application requirements, (2) providing a limited exemption for lands occupied by coal-preparation plants and support facilities, (3) modifying provisions for soil removal and stockpiling, and (4) establishing new procedures for determining success in the restoration of soil productivity. In addition, in response to a court directive, OSM is removing the April 3, 1983, prime farmland "grandfather" exemption cutoff date from the initial and permanent regulatory programs.

EFFECTIVE DATE: June 13, 1983.

FOR FURTHER INFORMATION CONTACT: Donald F. Smith, Division of Engineering Analysis, Office of Surface Mining, U.S. Department of the Interior, 1951 Constitution Avenue, NW., Washington, DC 20240; 202-343-5954.

SUPPLEMENTARY INFORMATION:

I. BACKGROUND

The Surface Mining Control and Reclamation Act of 1977 (the Act), *30 U.S.C. 1201* et seq., contains special permitting and performance standards governing mining on prime farmland as defined in Section 701(20) of the Act. Permit-application, information, and approval requirements are contained in Sections 507(b)(16), 508(a)(2)(C), 508(a)(5), and 510(d) of the Act.

Section 507(b)(16) of the Act requires permit applications to contain a soil survey for those lands in the application which a reconnaissance inspection suggests may be prime farmland. Section 508(a)(2)(C) of the Act requires permit applications to contain a statement of the productivity of the land prior to mining, including the appropriate classification as prime farmland. Section 508(a)(5) of the Act requires that the reclamation plan submitted as part of the permit application include a plan for soil reconstruction, replacement, and stabilization, pursuant to Section 515(b)(7) of the Act. Furthermore, Section 510(d)(1) of the Act provides that the regulatory authority, after consultation with the Secretary of Agriculture, shall grant a permit to mine on prime farmland if it finds in writing that the operator has the technological capability to restore such mined areas, within a reasonable time, to levels of yield equivalent to, or higher than, those of nonmined prime farmland in the surrounding area under equivalent levels of management and can meet the soil-reconstruction standards in Section 515(b)(7) of the Act.

Statutory performance standards specifically for prime farmland are found in Sections 515(b)(7) and 519(c)(2) of the Act. Section 515(b)(7) of the Act sets forth minimum requirements for soil removal, storage, replacement, and reconstruction. In addition, Section 519(c)(2) of the Act states that performance bonds shall not be released until soil productivity for prime farmland has returned to levels of yield equivalent to those of nonmined land of the same soil type in the surrounding area under equivalent management practices as determined from the soil survey performed pursuant to Section 507(b)(16) of the Act.

These rules revise OSM's special permit-application requirements and performance standards for surface coal mining operations on prime farmland as previously set forth in 30 CFR 716.7, 779.27, 783.27, and 785.17 and 30 CFR Part 823. The proposed rules were published at *47 FR 19076* on May 3, 1982. The preamble to the proposed rules explained many of the changes in detail and is incorporated as part of this preamble.

Throughout the development of these rules, OSM has solicited public comments and recommendations. A preproposal draft of these rules was provided to State regulatory authorities and other interested parties. Several interagency meetings were held with the Soil Conservation Service (SCS) of the U.S. Department of Agriculture (USDA) relative to its role in providing soil-survey standards, permit-review procedures, and soil-reconstruction specifications for prime farmland soils as required by Sections 507(b)(16), 510(d)(1), and 515(b)(7) of the Act. OSM made provisions to hold, upon request, public hearings and public meetings. OSM convened public hearings in Denver, Colorado, on June 16, 1982, and in Springfield, Illinois, on June 23, 1982.

The public comment period closed on August 25, 1982. It was subsequently reopened again on September 7, 1982, and closed on September 10, 1982, in response to congressional interest on the proposed rules.

More than 50 individuals and organizations representing State regulatory authorities, conservation agencies, educational institutions, Federal agencies, private industry, environmental interests, and private citizens offered in excess of 200 individual comments which were carefully considered in developing these final rules.

These final rules include changes to both the permit-application requirements and the performance standards for prime farmland.

II. DISCUSSION OF RULES ADOPTED AND RESPONSES TO COMMENTS

DELETION OF SECTIONS 779.27 AND 783.27

The previous rules had three sections (Sections 779.27, 783.27, and 785.17) that contained information and permit-application requirements for prime farmland. Previous Sections 779.27 and 783.27 contained nearly identical procedures for surface and underground mining activities to identify prime farmlands through a pre-application investigation. Section 785.17 established permit application requirements for prime farmland. These final rules amend Section 785.17 to incorporate the requirements of Sections 779.27 and 783.27. Sections 779.27 and 783.27 have been deleted. This reorganization relieves regulatory authorities and operators of the unnecessary burden of searching several rules to determine their permit requirements on prime farmland.

Two commenters objected to the proposal to consolidate previous Sections 779.27 and 783.27 under Section 785.17(b). One of these commenters stated that the proposed changes and consolidation would significantly weaken the Federal rules by allowing the State regulatory authority to require much fewer data than presently required by the SCS for prime farmland identification. The commenter also objected that the advisory role of the SCS to the regulatory authority is not mandatory, thus allowing the State regulatory authority alone to determine what constitutes an appropriate reconnaissance inspection. By allowing this, the commenter felt the proposed rule failed to establish minimum national standards.

Close coordination between the SCS and the regulatory authority within each State is necessary in order to have an effective prime farmland reclamation program. OSM intends that the administrative and technical process of the reconnaissance inspection developed by the regulatory authority in consultation with the SCS will become part of the State regulatory program and will be set forth in sufficient detail to describe the reconnaissance-inspection requirement. Section 785.17(b) requires the regulatory authority to consult with the SCS in determining the nature and extent of the required reconnaissance inspection. Thus, the advisory role of the SCS is mandatory in keeping with Section 510(d)(1) of the Act. However, the regulatory authority is required to make the final determination.

The rules will not be weakened through the collection of fewer data because the permit application must contain sufficient information to support the findings regarding the identification of prime farmland. The standards for identifying prime farmland have not been softened. Moreover, the SCS monitors the results of reconnaissance inspections.

The preservation of prime farmland requires criteria which allow State programs to reflect differences among the eastern, midwestern, and western coal areas. Extreme differences in prime farmland size, configuration, and management exist between these coal areas; therefore, personnel within each State who are most familiar with the region are best qualified to protect prime farmland. OSM and SCS will maintain close review of State regulatory programs and provide appropriate guidance where necessary.

OSM has generally adopted the proposed rules as the new final rules for the reasons described in this preamble and the preamble to the proposed rules at *47 FR 19076* (May 3, 1982).

Where changes have been made from the proposal, these changes are explained in the discussion that follows:

A. SECTION 785.17(b) - APPLICATION CONTENTS: RECONNAISSANCE INSPECTION

Final Section 785.17(b)(1) requires that every permit application contain the results of a reconnaissance inspection to determine if prime farmland soils exist. This reconnaissance inspection could be a review of an existing soil survey or, if none is available, an onsite field survey. The nature and extent of the reconnaissance inspection will be determined by the regulatory authority and the SCS within each State. These requirements are necessary to comply with Section 507(b)(16) of the Act. OSM has adopted Section 785.17(b)(1) as proposed, except that the word "State" has been deleted because the term "regulatory authority" is proper and more inclusive.

One commenter felt that the proposed rule would weaken the process for identifying prime farmland by eliminating reconnaissance inspections. OSM has not eliminated the requirement for reconnaissance inspections but rather has transferred this requirement from Sections 779.27 and 783.27 to Section 785.17.

Two commenters supported the concept of a State-by-State determination of prime farmland soils and soil-reconstruction standards and the proposed coordination between the States and SCS in defining the nature and extent of the reconnaissance inspection. They felt this would eliminate the burden of applying general, nationwide criteria and would allow the States to consider local conditions more accurately. These rules do not eliminate nationwide criteria as the commenter suggests, but they do allow necessary consideration of local conditions.

Another commenter felt that the SCS and the regulatory authority must obtain public input when they determine the nature and extent of the reconnaissance inspection. This commenter stated that any reconnaissance-inspection requirement imposed by the regulatory authority should be based upon facts which clearly demonstrate the necessity for the standard and which give all parties an opportunity to contribute to the decision-making process.

Public input into each permit application is provided for in the permitting process. This input can include comments on the appropriate nature and extent of reconnaissance inspections. Additionally, public input can be provided in the development and amendment of State programs, and any additional standards that may be deemed necessary by the regulatory authority based on local conditions can be included as an aspect of the State program.

Final Section 785.17(b)(2) as adopted is unchanged from the proposed rule and simply requires the applicant to submit a statement to the effect that no prime farmland historically used for cropland was found during the reconnaissance inspection and to include the basis upon which such a conclusion was reached.

One commenter supported the requirement that only a statement and the basis for conclusion by the operator is needed to verify that no prime farmland soils exist. Other commenters suggested that OSM delete the last sentence of proposed Paragraph (b)(2) and replace it with the negative-determination requirements of previous Section 779.27(b), amended to allow a negative conclusion if the area of prime farmland soil is an economically unusable farming unit because of size, shape, or location. One commenter asserted that: (1) The previous criteria provide valuable guidance to operators in attempting to ascertain the presence or absence of prime farmland; (2) the circumstances for small areas, odd shapes, or isolated locations of prime farmland are recognized by the Secretary of Agriculture in the description of prime farmland at 7 CFR 657.5; (3) the approved North Dakota State program recognizes that a "viable economic unit" is an integral component of prime farmland identification; and (4) Congress was concerned that those prime farmland acreages that do not comprise more than 10 percent of the surface area should not be considered prime farmland for the purposes of the permitting requirements and performance standards.

OSM recognizes that the criteria in previous Section 779.27(b) provide guidance in describing the nature and extent of the reconnaissance inspection. However, the level of detail in establishing criteria for the existence of prime farmland must be developed within each State because of the variety of soil surveys that may be used in any one prime farmland region, the progress of completion of soil surveys within each State, and the type of prime farmland soils found. The previous soil-survey negative-determination criteria were merely limits of the National Cooperative Soil Survey (NCSS) in describing and mapping prime farmland soils. These limits still apply, but the SCS will tailor these NCSS limits to the prime farmland soils found in each State. Therefore, the guidance will not only be available but will in fact be specifically tailored for each State.

OSM and SCS are aware of the general reference to the economics of prime farmland contained in 7 CFR 657.5(a)(1), which states that prime farmland "* * * has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed * * *." This is a general statement about prime farmland and is not specifically related to size. More specific physical and chemical qualities of prime farmland soils, set forth in 7 CFR 657.5(a)(2), are utilized to locate prime farmland soils. Soils with these physical and chemical soil qualities in areas with an adequate growing season and moisture supply consistently produce sustained high yields of crops and are one principal measure in the identification of prime farmland.

The State of North Dakota has included the concept of a viable economic unit in its State surface mining law (N.D. Cent. Code Section 38-14.1-02, 22. "Prime farmland") and regulations (N.D. Admin. Code Section 69-05.2-01-02, 100. "Prime farmlands") and regulation amendment I, July 30, 1982, (N.D. Admin. Code Section 69-05.2-01-01., 114. "Viable economic unit"). However, this is not the basis upon which the SCS identifies and maps prime farmland soils. The North Dakota State regulatory program, including the above-mentioned provisions concerning viable economic units, was approved by the Secretary with the caveat that the determination of whether land constitutes prime farmland would be made by the State Conservationist of the SCS *(45 FR 82220,* Dec. 15, 1980). The Secretary approved the program because the State regulations provide for SCS determination of prime farmlands. Complexes of prime farmland soils exist in North Dakota which are difficult to delineate from an agronomic standpoint. The SCS and the regulatory authority in North Dakota have agreed upon a method of soil handling for both prime farmland and non-prime farmland soils. OSM and SCS are aware of the special prime farmland conditions within North Dakota and are satisfied that North Dakota regulations will result in the restoration of the productive capacity of prime farmland soils and should be consistent with the regulations adopted today.

The Conference Report to the Act notes that the Senate bill contained a provision that "[a]ny mine application whose area in prime farmlands exceeded 10 percent of the total area included in the application would have to demonstrate that such lands would be restored to full productivity" (House Report No. 95-493, July 12, 1977, p. 105). The House bill contained no such provision and the conferees did not include the 10-percent provision in the Act. OSM believes an across-the-board exemption for small areas of prime farmland soils is not warranted because of the vast differences in prime farmland value, crops, and farmland uses throughout the country. For instance, 10 acres of tobacco land in Indiana, 200 acres of corn in Illinois, and 640 acres of wheat in North Dakota represent considerably different prime farmland uses and values. These differences can best be described by agriculturalists and the regulatory authority within each State. Soil surveys used for operational conservation planning will be the basis for locating and sizing small prime farmland units. This is discussed more fully below in reference to Section 785.17(b)(3).

The permit-application and approval process for any particular proposed operation will likely be reviewed by the SCS because the SCS has the major responsibility for the conservation of prime farmland soils and has local offices in nearly every county of the United States. Also, the USDA, in cooperation with other Federal agencies, is identifying the effects of Federal programs on the conversion of prime farmland to nonagricultural uses as required by Subtitle I of the Farmland Protection Policy Act of 1981, Pub. L. 97-98. OSM is taking full advantage of the location and responsibilities of the SCS to be assured that prime farmland soils are preserved in accordance with the Act.

Final Section 785.17(b)(3) requires that where the reconnaissance inspection indicates that there may be prime farmland, the applicant must determine if a soil survey used for operational conservation planning, as defined by the SCS, exists for these lands and whether soil-mapping units within the proposed permit area have been designated as prime farmland. Where no soil survey exists, the applicant is responsible for providing a soil survey of the proposed permit area.

One commenter believed that the SCS soil surveys are not of adequate scale and suggested using a scale of 1:6,000. OSM and SCS cannot accept the use of a scale of 1:6,000 or other alternative scale for soil surveys when identifying and

locating prime farmland soils. Soil surveys used by the SCS for operational conservation planning have been identified by the SCS as the soil survey needed to identify and locate prime farmland soils. the scale of these soil surveys ranges between 1:15,840 (4 inches per mile) and 1:24,000 and is in accordance with the standards of the NCSS.

Two commenters suggested that Section 785.17(b)(3) be placed ahead of Section 785.17(b)(1) because it is easier to check SCS soil-survey maps for prime farmland soils and then to check only those areas for historical cropland use, rather than the reverse.

The adopted order of these paragraphs is appropriate because the soil-survey information will likely be more readily available than data on historical cropland use. The rule adopted would not preclude the method of investigation described by the commenter. A determination that prime farmland does not exist for the purposes of the Act can be based upon either historical cropland use or a soil survey. One commenter also stated that the requirement to conduct a soil survey should be clarified to apply only to the permit area and include only prime farmland soil. OSM agrees with this comment and has modified the rule language accordingly. To be consistent with the opinion in In re: Permanent Surface Coal Mining Regulation Litigation, Civ. No. 79-1144, Mem. opin. at 39 (February 26, 1980), the language has been changed to require that a soil survey be made "If no soil survey exists, * * * of the lands within the permit area which the reconnaissance inspection indicates could be prime farmland."

Final Section 785.17(b)(3) (i) and (ii), respectively, direct applicants to submit a statement that no prime farmland exists if none is found or to comply with the permit-application provisions where prime farmland soils are present. No comments were received on these sections and they are unchanged from the proposed rule.

B. SECTION 785.17(c) - APPLICATION CONTENTS

Final Section 785.17(c) sets forth the permit-application requirements if prime farmland soils are located within the proposed permit area.

One commenter asked that before any future mining is approved, all soil surveys be available and that up-to-date production levels for crops be established. This commenter did not want any prime farmland surface mined unless each acre will be returned to its present capability. OSM and SCS agree with this commenter and continue to require soil surveys and crop yields for prime farmland that is to be disturbed.

Final Section 785.17(c)(1) specifies that soil surveys used in permit applications must meet the standards of the NCSS. The SCS has the primary national responsibility in maintaining soil-survey standards, and OSM and SCS have clarified the requirements of the NCSS by referencing the SCS National Soils Handbook (U.S. Soil Conservation Service, 1982) in the rule as an acceptable guide to the NCSS. This handbook maintains current procedures for conducting soil surveys to the standards of the NCSS and is available in all SCS area and State offices. Its inclusion in the rule is to provide notice of easily accessible information to clarify the standards of the NCSS.

Final Section 785.17(c)(1)(i) incorporates by reference USDA Handbooks 18 and 436 (U.S. Soil Conservation Service, 1951, 1975) that contain procedures to the standards of the NCSS. OSM and SCS have clarified SCS's responsibilities with respect to the NCSS by stating that the SCS established NCSS standards as well as maintains updated procedures for conducting these soil surveys through the National Soils Handbook. OSM does not consider this a substantive change to these rules. Two commenters pointed out that the Director's approval within this section needs to be updated. The date of the Director's approval for incorporation by reference has been updated.

One commenter wanted Section 785.17(c)(1)(i) deleted because the commenter felt it unnecessary for OSM to commit itself to publishing notices in the Federal Register of changes to the NCSS. OSM and SCS find it desirable to maintain one standard for soil surveys as required by Section 507(b)(16) of the Act. These standards are those of the NCSS. All materials submitted to the Federal Register under "incorporation by reference" must be updated periodically as required by 1 CFR Part 51.

Final Section 785.17(c)(1)(ii) delineates more specifically the requirements for soil surveys. This section lists soil properties which must always be described for each prime farmland soil within the permit area and makes it clear that the

SCS is to determine the content of representative soil-profile descriptions including, but not limited to, soil-horizon depth, pH, and soil densities. The applicants may use other soil-profile descriptions from the local area if approved by the SCS.

One commenter requested additional language in Section 785.17(c)(1)(ii) to assure that the regulatory authority has authority to require additional information on other physical and chemical properties of the soil to establish that the operator has technological capability to restore the permit area to the soil-reconstruction standards. OSM has added the following sentence to provide this clarification: "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."

One commenter wanted the regulatory authority, rather than the SCS, to have responsibility for approving soil-profile descriptions. OSM believes that such approval is the proper responsibility of the Secretary of Agriculture. The SCS is the lead agency for the NCSS and as such has the responsibility to maintain soil-survey criteria for prime farmland soils. These criteria, in the form of physical and chemical properties of soil, are to be given to the regulatory authority by the SCS. This is in keeping with the Secretary of Agriculture's responsibilities under Sections 507(b)(16) and 510(d)(1) of the Act. The regulatory authority, in cooperation with the SCS, will use these soil-survey specifications in determining if the soil surveys submitted by applicants are adequate and, ultimately, in approving permits for areas containing prime farmland.

Another commenter pointed out that the proposed rule would require more stringent soil descriptions than the previous rule. OSM does not agree that these rules are more stringent, because the standards of the NCSS have always been the standards for soil surveys. The term "soil survey" was, and continues to be, defined in terms of the NCSS. (See the definition of "soil survey" in 30 CFR 701.5.)

Another commenter requested using "average densities" rather than "range of densities" in determining soil profiles. This commenter also pointed out the need to prepare new soil descriptions because the SCS does not routinely collect soil-density information with representative soil-profile descriptions. OSM and SCS believe that the "range of soil densities" required in the final rule provides better information for use by the regulatory authority than "average densities" would, because soil densities are reported in ranges in the soil survey. Also, a range is more realistic and makes more technical sense than an average, which is a single number. OSM and SCS agree with the commenter that at times some additional information on soil densities will have to be collected by the operator to supplement existing soil surveys.

Three comments requested deletion of properties associated with the soil description such as pH and soil densities because: (1) The operator would probably gather this data anyway, (2) these data are not mentioned in the Act or in USDA Handbook 18, (3) there is no need for these data if an equal or higher productivity standard is met, and (4) the procedures undertaken by operators to achieve the requirement would be expensive and time consuming. The final rule retains this listing of soil properties. The three elements of the soil profile -- soil-horizon depths, pH, and soil densities -- have been added as a requirement to the previous rules because OSM and SCS believe such information is essential for determining the adequacy of all proposed soil-reconstruction plans. One of these commenters felt that OSM has wrongly assumed that soil density is an important soil property, stating that there is no accurate way to define soil density and that there are no studies or technical justification to support OSM's approach. OSM and SCS do not agree with this commenter and point out that density data are required because it is well established that increased soil densities result in decreased crop yields, thereby guaranteeing failure when measured against the "equal or higher level of yield" standard of Section 510(d)(1) of the Act. (Guernsey and others, 1979, pp. 69-79).

Final Section 785.17(c)(2) requires the operator to submit a plan which gives soil-reconstruction, replacement, and stabilization methods to be used on prime farmland soils. This plan is required by Section 508(a)(5) of the Act. The purpose of this plan is to assist the regulatory authority and the SCS in evaluating the technological capability of the operator to reconstruct prime farmland soils to the specifications of Part 823. This new final rule is unchanged from the proposed rule.

One commenter supported the proposed rule change in Section 785.17(c)(2) by stating that to demonstrate the capacity to comply with the performance standards would be less burdensome and more flexible and practical than attempting to specifically identify all the detailed requirements given in Part 823. Another commenter felt that more

information should be required to judge the technological capability of an operator to return prime farmland to its original capability. This commenter wanted OSM to require information such as the proposed method and type of equipment to be used for removal, storage, and replacement of prime farmland soils. The commenter believed the deletion from previous Section 785.17(b)(2) of the method and equipment to be used violated Section 507(b)(7) of the Act.

Previous Section 785.17(b)(2) duplicates Section 780.11(a) and is therefore unnecessary. The operation plan under Section 780.11 must include a description of the method of coal mining, engineering techniques, and equipment to be used for all operations. This section fully implements Section 507(b)(7) of the Act, and there is no need to duplicate it in the special permit-application rules for prime farmland which supplement the general requirements. The regulatory authority in consultation with the SCS can require more detailed information on the proposed method and type of equipment as needed on a site-by-site basis.

Final Section 785.17(c)(3) requires that the applicant provide agricultural-school studies or other scientific data to demonstrate that the proposed method of reclamation will be successful. These studies and data are to be applicable to the prime farmland soil under investigation. Where soil mixing is a proposed reclamation technique, data must be provided to demonstrate that the proposed mix of soil will achieve levels of yield equal to, or higher than, those on nonmined prime farmland in the surrounding area.

Several commenters suggested that crop yields required in proposed Section 785.17(c)(3) be modified by the phrase "in the surrounding area" rather than by the phrase "as existed before mining" in order to conform with the language used in Section 510(d)(1) of the Act. OSM agrees that this change is appropriate as it removes ambiguity and makes clear that applicants must demonstrate the ability to meet the standard of Section 510(d)(1) of the Act. This clarification does not otherwise alter the interpretation of Section 785.17(c)(3).

Another commenter felt that a permit should not be approved until there is documentation, through field trials conducted since passage of the Act, to establish that equivalent crop yields can be achieved. Another commenter felt that conclusive proof that the required crop yields will be met must be specified and that the burden of proof should lie with the SCS. OSM agrees that documented field trials will more than likely be used for the demonstration required by Section 785.17(c)(3). Because of the many variables involved in describing the adequacy of research plots and the duration of applicable research efforts, the regulatory authority and the SCS must review and evaluate the conditions under which agricultural-school studies or other scientific data were made. However, the operator is responsible for making the required demonstration.

One commenter opposed deletion of the parenthetical reference to water management from this section because this kind of documentation is the only basis upon which approval of mining of prime farmland can be made.

OSM does not agree with the commenter's assertion that this change was either significant or substantive. The term "management" under the previous rule and the rule as adopted includes water management, pesticide management, proper use of fertilizers, use of appropriate crop varieties and rotations, and whatever other management practices are commonly accepted for the locality. OSM has deleted the parenthetical reference to water management to eliminate redundancy and to avoid listing all the applicable forms of management.

Final Section 785.17(c)(4) is a new section that requires that the applicant include in the reclamation plan the established productivity under high levels of management of each prime farmland soil to be mined. This prime farmland soil productivity is routinely documented within the SCS soil surveys and is readily available from SCS offices.

Originally, Section 785.17(b)(8) required a permit application for prime farmlands to include in the reclamation plan current estimated yields under a high level of management for each soil to be mined. The rule further set these estimated yields as the target yields by which reclamation success on prime farmland was to be judged. This use of high levels of management to set reclamation standards was remanded to the Secretary in In re: Permanent Surface Mining Regulation Litigation, Civ. No. 79-1144, Mem. opin. at 5 (D.D.C., May 16, 1980). The court held that permit approval and bond release depend upon a showing of revegetation success based only on equivalent levels of management and that the Secretary could only require the high levels of management standard in the reclamation-plan information rule. On August 4, 1980 *(45 FR 51549)*, OSM suspended Section 785.17(b)(8) insofar as it requires a demonstration in the permit application of current estimated yields under a high level of management. The proposed rule would have deleted all

reference to high levels of management in either the reclamation plan or as a standard for permit approval or bond release *(47 FR 19076,* May 3, 1982).

One commenter supported the deletion of the "high levels of management" information requirement of previous Section 785.17(b)(8), because that language went too far in establishing high management yields as a reclamation target. However, this commenter pointed out that Section 508(a)(2)(C) of the Act requires that reclamation plans provide information on the productivity of land prior to mining, including average yields under high levels of management. The commenter suggested that this requirement should be retained for informational purposes relative to Section 508(a)(2)(C) only. OSM agrees with this commenter and is retaining the informational requirements of Section 508(a)(2)(C) of the Act by establishing a new final Section 785.17(c)(4) patterned after the language of the Act.

C. OMISSION OF PREVIOUS SECTION 785.17 (b)(4) and (b)(6)

One commenter opposed the deletion of previous Section 785.17(b)(4) because without it the regulatory authority's ability to locate and monitor separate soil stockpiles as required in Section 515(b)(7)(B) of the Act would be inhibited. OSM is deleting this paragraph because it repeats the minimum requirements for reclamation and operation plans under 30 CFR Parts 780 and 784. These parts require that the reclamation-plan portion of the permit application show the location of each topsoil and subsoil storage area. Since Section 823.12 (c)(1) and(c)(2) require the operator to store the topsoil separately from the B and C horizons, and both separately from other soil, the general permit-application rules are sufficient to provide the regulatory authority with all the information it needs to monitor separate soil stockpiles. Redundancy is eliminated by removing this section.

Previous Section 785.17(b)(6), which required plans for seeding or cropping the final-graded prime farmland soils, was proposed to be deleted in its entirety. One commenter opposed the deletion of Section 785.17(b)(6) on the grounds that it would weaken the regulatory authority's ability to evaluate whether plans for seeding or cropping are consistent with reconstruction plan which will apply equivalent levels of management. OSM has deleted this section because it duplicated other reclamation- and operation-plan requirements of Parts 780 and 784. Because the standard for determining revegetation success on prime farmland is to achieve levels of yield equivalent to yields on nonmined land of the same soil type in the surrounding area under equivalent levels of management, the reclamation plan submitted under Section 780.18 or Section 784.13 will have to show how the applicant plans to meet that standard. Therefore, previous Section 785.17(b)(6) is not needed to ensure that the standards of Section 510(d)(1) of the Act are met.

D. SECTION 785.17 (d) and (e) - CONSULTATION WITH THE SECRETARY OF AGRICULTURE AND ISSUANCE OF PERMIT

Final Section 785.17(d) has been reorganized to clarify the responsibilities of the Secretary of Agriculture under this section. This paragraph is consistent with the previous interpretation of the responsibilities of the USDA and the SCS regarding prime farmland matters.

Final Section 785.17(d)(1) recognizes that the Secretary of Agriculture has certain responsibilities with respect to prime farmland soils and that these responsibilities have been assigned to the SCS State Conservationist within each State. The title "Administrator" in the proposal was changed to "Chief" to be consistent with the current SCS position title.

Final Section 785.17(d)(2) requires that the State Conservationist provide to the regulatory authority a list of prime farmland soils and their locations, physical and chemical characteristics, crop yields, and other data that are necessary to adequately support prime farmland soil descriptions. OSM has added this paragraph, with SCS concurrence, to clarify the responsibilities of the State Conservationist in providing prime farmland soil-survey information to the regulatory authority.

Final Section 785.17(d)(3) requires that the State Conservationist assist the regulatory authority in describing the nature and extent of the reconnaissance inspection. This is the same requirement as Section 785.17(b)(1) and is repeated here to consolidate and clarify the responsibilities of the State Conservationist.

Final Section 785.17(d)(4) requires that the regulatory authority consult with the SCS State Conservationist before approving any permits concerning prime farmland. The State Conservationist will provide review and comment on the

proposed method of soil reconstruction. Where the State Conservationist considers the soil-reconstruction methods inadequate, he or she will suggest revisions which will result in more complete and adequate reconstruction.

Two commenters supported the expanded role of the SCS, while another commenter suggested that OSM further strengthen the SCS role with the regulatory authority. One of these commenters felt that there may be a timing problem because this rule will be finalized before the SCS and regulatory authority can establish soil-reconstruction specifications and determine the nature and extent of the reconnaissance inspection. This commenter felt these rules should have an extended effective date that will provide time for coordination between the SCS and the regulatory authority. OSM recognizes that this coordination will take time. However, OSM and SCS have already begun discussions of how the rules would be implemented and believe that there is no need to postpone the effective date. Furthermore, the Secretary of Agriculture's role is clear in this section and no modification is necessary.

Another commenter requested deletion of Paragraphs (d) and (e) and their replacement by a new Paragraph (d) which would incorporate the requirements of Section 510(d)(1) of the Act. This commenter also objected to requiring the applicant to negotiate with both the regulatory authority and the SCS. Section 515(b)(7) of the Act requires the Secretary of Agriculture to establish soil-reconstruction specifications. The Secretary of Agriculture has assigned this responsibility to the Chief of the SCS. Section 785.17(d) requires the regulatory authority, not the applicant, to consult with the SCS for review of prime farmland reclamation plans. Implementation of the soil-reconstruction specifications is the responsibility of the regulatory authority in consultation with the SCS. Although this rule does not preclude the applicant from dealing directly with the SCS, the applicant is not required to negotiate with the SCS. The final rule retains paragraphs (d) and (e).

One commenter requested language to make it clear that this section applies only to areas to be mined and reclaimed and does not apply to underground mines. Section 510(d)(1) of the Act requires that the special prime farmland permit-approval standards, including consultation with the Secretary of Agriculture, apply whenever the area proposed to be mined contains prime farmland. The language of the proposed rule has been retained because it is consistent with this statutory language. Contrary to the commenter's assertion, the prime farmland provisions of the Act do apply to disturbed areas associated with underground mining. The permit requirements of Sections 506, 507, 508, and 510 of the Act apply to any surface coal mining operation, which, as defined by Section 701(28) of the Act, includes the surface effects of underground mining. Likewise, the performance standards of Section 515 of the Act (through the operation of Section 516(b)(10) of the Act) and bond-release provisions of Section 519 of the Act apply to any surface coal mining operation, including the surface effects of underground mining. The U.S. District Court for the District of Columbia also held that the Secretary does have the authority to apply the prime farmland rules to the surface effects of underground mining. In re: Permanent Surface Mining Regulation Litigation, Civ. No. 79-1144. Mem. Opin. at 3, (D.D.C., May 16, 1980). The language of the proposed rule has not been removed as suggested by the commenter.

Final Section 785.17(e)(2) requires that, before a permit is issued, the regulatory authority must find that, the permit incorporates the contents of the soil-reclamation plan submitted by the applicant under Section 785.17(c) after consideration of revisions as suggested by the SCS State Conservationist. OSM has changed the reference from the Secretary of Agriculture to the State Conservationist in keeping with Section 785.17(d)(1). This is not a substantive change from the proposed rule.

E. PART 823 -- SPECIAL PERMANENT PROGRAM PERFORMANCE STANDARDS

Part 823 sets forth soil-removal, storage, and replacement specifications, as well as specifications for revegetation and restoration of soil productivity for prime farmland soils that are disturbed. Some prime farmland soils do not need to be restored according to these special performance standards because of exemptions in Section 823.11 that are based upon historical use, grandfather rights, construction of an approved water body, or the existence of a long-term preparation plant or support facility. However, the general performance standards and bond-release provisions do apply to those areas or facilities that qualify for the exemption.

One commenter felt that the prime farmland performance standards should be as exacting (or more so) as the standards for designating lands as unsuitable for surface coal mining.

Section 522 of the Act sets forth the State planning process for the designation of lands as unsuitable for surface coal mining. Under this section, the regulatory authority determines whether any lands are unsuitable for certain types of

surface coal mining operations based upon a technical and economic feasibility study of achieving the reclamation requirements of the Act or based upon other criteria in Section 522(a)(3) of the Act. Sections 515(b)(7) and 519(c)(2) of the Act provide explicit performance standards for the mining and reclamation of prime farmland. In addition, the permitting sections, as discussed previously, clearly condition approval of a prime farmland permit on a demonstration that the performance standards can and will be met. These prime farmland standards are independent of the unsuitability provisions and should not be confused with that separate process. OSM has therefore rejected the commenter's suggestion.

Final Section 823.1 delineates the scope and purpose of Part 823 and provides that the special environmental protection performance standards, reclamation standards, and design standards apply to surface coal mining and reclamation operations on prime farmland. No comments were received on this section. This final rule is not changed from the proposed rule.

F. SECTION 823.4 RESPONSIBILITIES

Final Section 823.4 is a new section which sets forth the responsibilities of the SCS and the regulatory authority with respect to the establishment and regulation of specifications for removal, storage, replacement, and reconstruction of prime farmland soils. The responsibilities outlined in this section have been consolidated here for clarity and are not new.

Final Section 823.4(a) requires that the SCS within each State establish specifications for prime farmland soil removal, storage, replacement, and reconstruction. This was proposed as Section 823.14(a) and has been moved to Section 823.4(a) to clarify the responsibilities of the USDA as required by Section 515(b)(7) of the Act.

Final Section 823.4(b) requires that the regulatory authority within each State utilize the soil-reconstruction specifications established by the SCS to carry out its responsibilities regarding the prime farmland soil-removal, storage, replacement, and reconstruction provisions of Section 785.17 and the criteria and schedule for release of performance bonds under 30 CFR Subchapter J. This new paragraph consolidates and clarifies the responsibilities of the regulatory authority required by Sections 510(d)(1) and 519(c) of the Act.

Several commenters expressed concern with respect to the requirement that the SCS establish soil-reconstruction specifications. Two commenters supported this requirement, while five commenters objected. Two of the latter group felt that it would be confusing if the SCS set these specifications and that the role of the SCS and regulatory authority must be clarified. Two other commenters felt that to have the SCS set these specifications was not within the spirit or intent of the concept of State primacy. Another commenter felt that the proposed rules place an inappropriate amount of responsibility on the SCS for levels of crop yield. This commenter felt that any appropriate USDA agency would provide greater flexibility in the development of the reclamation plan. Another commenter questioned whether the SCS could maintain the responsibility for these specifications.

OSM and SCS point out that Sections 507(b)(16) and 515(b)(7) of the Act require the Secretary of Agriculture to establish soil-survey standards and soil-removal, storage, replacement, and reconstruction specifications for prime farmlands to be mined and reclaimed. In order to best meet the special needs of each State with respect to prime farmland soil-reconstruction and mining methods, OSM and SCS have agreed that detailed soil-reconstruction specifications must be determined on a State-by-State basis, whereas the permanent program rules, which are national in scope, should be limited to identifying general elements of concern in soil reconstruction. The SCS is primarily responsible for locating, describing, and establishing standards and specifications and otherwise identifying prime farmland soils. It has had many years of experience and is best qualified to establish and maintain the prime farmland soil-reconstruction specifications on a State-by-State basis. Also, SCS maintains data on crop yields for prime farmland soils, OSM is adding Section 823.4(a) as a result of comments received requesting clarification of the role of the SCS in establishing the performance standards under Part 823.

G. SECTION 823.11 APPLICABILITY

Final Section 823.11 sets forth exclusions from the prime farmland performance standards for: (1) Coal preparation plants, support facilities, and roads actively used over long periods of time which affect a minimal amount of land, (2) approved water bodies, and (3) prime farmland not historically used as cropland and "grandfathered" prime farmland.

One commenter objected to giving States greater flexibility to grant variances from the prime farmland soil-reconstruction specifications. This commenter felt that the new rules would increase the likelihood that inadequate soil-reconstruction practices would be used and thereby jeopardize a successful restoration of prime farmland productivity. OSM disagrees with this commenter. More flexibility at the State level is needed to incorporate the specific requirements of local conditions and thereby ensure successful restoration of each particular prime farmland soil.

Final Section 823.11(a) excludes from the special prime farmland performance standards land occupied by coal preparation plants, support facilities, and roads associated with surface and underground mines, in accordance with the decision in In re: Permanent Surface Mining Regulation Litigation, No. 79-1144 (D.D.C., May 16, 1980), pp. 1-3. The Court evaluated the preservation of the A and B or C soil horizons with respect to compacted soil horizons and the ability of the operator to alleviate this compacted condition with deep tillage. The District Court ruled that the prime farmland performance standards of the Act do apply to the surface effects of underground mining operations but suggested that a limited exemption be made for surface facilities which are actively used for extended periods of time and which affect a minimal amount of land. OSM has extended this exclusion to preparation plants, support facilities, and roads of surface mines which will be actively used over long periods of time because of the similarity of such long-term uses and their effects for both types of mining.

The Court pointed out that the Act's reclamation standards technically apply where construction of roads and support facilities removes the topsoil of prime farmland. The Court also noted, however, that an operator may need only to engage in deep tilling to restore the soil productivity of the prime farmland where support facilities have compacted the B or C soil horizons. The Court recognized that the chief surface intrusions from underground mining activities stem from support facilities such as roads, loading structures, coal-processing plants, and stockpiles.

The Court also noted that one difference between surface and underground mines is the extended period of time that most underground mines are in operation. The extended period of time which support facilities must be actively used in order to qualify for this exemption was discussed by the Court as being 20 to 40 years. The Court indicated, without elaboration, that support facilities utilizing a minimal amount of land should be allowed an exemption. The Court further noted (footnote 4, p. 3) that the operator would still be required to engage in a preapplication investigation (reconnaissance inspection) and comply with the applicable permit and bonding requirements.

The general topsoil rules require that all topsoils be removed from areas to be disturbed in mining and reclamation including areas utilized by support facilities (Sections 816.22 and 817.22). OSM generally agrees that it is better to leave the B and C soil horizons in place and alleviate a compacted condition with deep tillage or other methods. However, some support facilities such as waste areas, machine repair areas, and coal processing areas may chemically alter the B or C soil horizons drastically, thus decreasing or eliminating the soil productive capacity. The B or C soil horizons should be protected from chemical contamination if necessary to achieve the applicable vegetative cover and productivity required by Sections 816.116 and 817.116. The operator may choose to remove and store the B or C soil horizons and replace them at a future date, or the operator may choose to place a protective barrier between the support facility causing chemical contamination and the B or C soil horizons. In addition, under final Section 816.22(a)(3), the regulatory authority may require that the B and C horizons be separately removed, segregated, stockpiled, and replaced to ensure retention of soil capabilities. Thus, where the exemption of Section 823.11(a) applies, OSM is requiring that the operator protect the productive capacity of the soils in accordance with Sections 816.22 or 817.22 where the permanent retention of these facilities or roads has not been included as part of the approved postmining land use.

One commenter suggested that the surface-facility exemption should also apply to the investigative aspects (preapplication investigation) of the rules. OSM has not accepted the suggestion. The District Court specifically held that the operator must comply with the investigative aspects of these rules.

Five commenters supported extending the exemption to both surface and underground mining activities. They felt that this was a logical extension and provided adequate flexibility. Two commenters opposed the exemption for surface mining support facilities. They felt that: (1) The soil horizons could be removed and utilized elsewhere in the permit area, whereas this is not possible with underground mines because there is little other disturbed area, and (2) this extension of the exemption was illegal because it exceeded the limited exemption suggested by the District Court.

OSM has evaluated the criteria for determining when a surface facility associated with an underground mine should be exempted and has concluded that the criteria apply equally well to such facilities associated with surface mines. Surface

mines often use the same types of facilities as underground mines and for comparable periods of time. OSM has decided, therefore, to extend the exemption to surface mines, not just because of the Court order but because a reasonable construction of the prime farmland sections of the Act does not require that they be applied to "areas" where their special protections would be to no avail. The commenter also objected that such an exemption was not needed for surface mine support facilities because they are not actively used over an extended period of time. The commenter has misconstrued the limiting elements of the exemption. All coal preparation plants, support facilities, or roads are not exempted under Section 823.11(a); only those that are actively used over extended periods of time and which affect a minimal amount of land are exempted. If these conditions are not met, then the prime farmland rules do apply to the preparation plant, support facility, or road. Furthermore, it is irrelevant to the applicability of soil-reconstruction standards at a particular location that the soil horizons at that location could be used elsewhere.

Two commenters felt that the provisions of Part 823 for prime farmland soil reconstruction, revegetation, and restoration of soil productivity should apply to "areas to be mined" as stated in Section 510(d)(1) of the Act or areas to be "mined and reclaimed" as stated in Section 515(b) (7) of the Act. One of these commenters would have liked to exclude underground mining activities and surface facilities and surface mining activities that do not involve drilling, blasting, or mining unless expressly indicated or required by the regulatory authority in a permit. Another commenter wished to ensure that Part 823 does apply where mining will result in the removal of overburden. OSM reasserts its long-standing position that Part 823 applies to all surface coal mining operations on prime farmland, including surface impacts incident to underground mining, except for those situations set forth in Section 823.11. Even if an operation would qualify for an exemption under Section 823.11, the permit-application requirements of Section 785.17 and the general bond-release requirements of Subchapter J apply. See In re: Permanent Surface Mining Regulation Litigation, supra, at 3 N.4.

OSM specifically requested comment on the proposed prime farmland rules with respect to the type of support facilities which should be exempt, the duration of their use, and the maximum size of the land area that could be affected. OSM received more than 25 comments regarding this request.

Many commenters suggested that one or more of the following be included in the definition of support facilities: Air shafts, adits, bath houses, battery storage and recharge sheds, coal storage areas (clean and raw coal), disposal and storage areas for waste, equipment storage areas, fan sites, garage areas, hoist buildings, loading docks, office buildings, access roads, main haul roads, water treatment plants, parking lots, power substations, preparation plants, refuse sites, repair sheds, shafts, shop areas, shipping areas, processing and loading facilities, supply yards, tipples, and minor facilities.

Two commenters felt that such an exemption is appropriate for life-of-the-mine support facilities, including roads, because these facilities disturb a minimal amount of land and there is no other area to which the disturbed soil horizons can be transferred. Another commenter suggested that long-term as well as secondary support facilities be included in the exemption. Another commenter felt that only minor support facilities should be exempted and that the area disturbed by these minor facilities should be accommodated and assigned a crop productivity index to be compared to the crop-productivity index of the entire area.

The term "support facilities" is defined in proposed Section 701.5 *(47 FR 27693,* June 25, 1982) to mean those facilities resulting from, or incident to, surface coal mining operations. This term and the terms "coal preparation plants" and "roads" describe those surface facilities which are exempted under Section 823.11(a) from the special prime farmland performance standards. The term "coal preparation plant" will be defined in Section 701.5 rather than "coal processing plant." It will mean a facility where coal is processed to separate coal from its impurities. In its May 16, 1980, opinion, the Court included coal processing plants in the same category as support facilities. Id at p. 2. The two definitions in Section 701.5 include nonexclusive lists of facilities that may qualify. Such facilities are exempted only if they affect a minimal amount of land and are actively used over an extended period of time. Facilities such as coal and waste storage areas, tipples, and processing facilities may be considered support facilities but may not be exempt under Section 823.11(a) if they are used for a short period of time or cover a large area. The determination of these limits has been left to the regulatory authority, which can better evaluate these time and area factors on the basis of local conditions.

OSM has added roads to the exemption because the District Court referred to roads as deserving treatment similar to support facilities. Since the definition of support facilities in Section 701.5 does not include roads, they must be listed separately in the rule. To be exempted, roads must meet the same conditions as support facilities.

OSM does not believe that a crop-productivity index is appropriate for defining the class of exempt facilities, because the suggested method is too cumbersome to be an effective national rule. Regulatory authorities may choose to use such an index to determine whether a particular facility affects a minimal amount of prime farmland.

Two commenters suggested that the duration of active use to qualify for this exemption should be 10 or more years. One of these commenters added that long-term support facilities could easily be in use for this period of time. The District Court ruled that OSM's rules were arbitrary where they commanded operators to segregate the topsoil and the underlying soil horizons for 20 to 40 years in situations where reclamation will affect a minimal amount of land. OSM recognizes that many different kinds of support facilities are utilized regionally over differing lengths of time, depending upon mining methods. The regulatory authority should use its discretion in selecting the duration of time for actively used support facilities to qualify for this exemption, keeping in mind the context in which the court created the exemption.

Many commenters asked for clarification of the phrase "minimal amount of land." It was suggested variously that 2 acres, 5 acres, and 20 acres or less be the size exempted. Another commenter felt that the aggregate productive potential of prime farmland in the permit area should not be reduced by more than 2 percent.

One commenter felt that a minimal amount of prime farmland for siting and construction of support facilities should be exempt, whereas another commenter felt that the size of the area to be exempted should be determined by the regulatory authority using such factors as: (1) The practicality of locating the facilities in areas other than prime farmland, (2) the nature of the facilities, (3) the extent to which the operator's plans minimize the use of prime farmland, and (4) the impact on surrounding prime farmland.

Another commenter reported that the ratio of the area mined to the area of surface facilities for three large underground mines in Illinois varied between 33 to 1 and 44 to 1. Another commenter reported that support facilities and water bodies could take up as much as one third of coal mine sites. No supporting data were provided by either commenter.

As pointed out by these commenters, the acreage used for support facilities could vary considerably between the type of facility under consideration, location, and mining method utilized. For example, a comprehensive review of Illinois lands affected by underground coal mining was published in 1977 (Nawrot and others, 1977). Disturbance from past underground coal mining activity totaling 6,955.9 acres was present at 700 abandoned underground coal mine sites in 55 Illinois counties. Affected acreage included gob, slurry, tipple, water impoundments, and offsite affected areas and was unequally distributed among the 55 counties, depending upon the size and kind of mining operation. Eleven counties accounted for 80 percent of the affected acreage, with an average of 21.4 acres for 263 mine sites. In contrast, 44 counties accounted for 19.2 percent of the affected acreage, with an average of 3.0 disturbed acres for 437 mine sites.

Because site locations, mining methods, and kinds of support facilities are highly variable, OSM believes that the regulatory authority should establish the maximum area which may be exempted. The factors suggested by commenters should be helpful in making the required determinations. If in practice the exemption provided by Section 823.11(a) leads to abuse or is inconsistently applied by different States, OSM will provide further guidance.

Final Section 823.11(b) provides an exemption from Part 823 where water bodies have been approved as an alternative postmining land use by the regulatory authority. These water bodies must meet the requirements for construction of permanent and temporary impoundments of Sections 816.49 and 817.49 of this chapter and must be designed and constructed to minimize the loss of prime farmland.

Three commenters were opposed to the exemption for water bodies as an alternative land use after mining. They felt that this exemption was in direct conflict with Section 785.17(e)(1), which requires that the postmining land use be cropland. One commenter claimed that exempting approved water bodies from the prime farmland performance standards would violate the Act. The commenter relied on the statement by the U.S. Supreme Court that "Congress presumably concluded that allowing variances from the prime farmland provisions would undermine the effort to preserve the productivity of such lands." *Hodel v. Indiana, 101 S. Ct. 2376, 2387 (1981).* The commenter believed that this statement shows that the Supreme Court determined that Congress intended that there be no variances from the prime farmland restoration standards of the Act.

OSM remains unconvinced that the Hodel opinion is dispositive of the issue. The Court held that the plaintiffs had not clearly shown that the prime farmland provisions were not rationally related to a legitimate governmental purpose. *Id. at 2386.* The statement quoted by the commenter was not made in the context of a challenge to a narrowly prescribed variance established by OSM under a related statutory provision. It was not essential to the holding that the prime farmland provisions were not unconstitutional on their face.

As noted by the commenter, the assertion that no variances from the prime farmland standards are allowed is not precisely correct. For example, the U.S. District Court for the District of Columbia has held that there should be an exception in the rules for certain surface facilities. In Re: Permanent Surface Mining Regulation Litigation, Civ. No. 79-1144, (D.D.C. May 16, 1980) at 3. By implication there must also be an implied exception to the standards of the Act for such support facilities.

The prime farmland provisions of the Act are not completely independent of the other performance standards of the Act. In fact, all of the other performance standards apply to prime farmland except the general topsoil and revegetation standards, which are replaced by the more specific prime farmland standards. Among these other performance standards which apply to prime farmland is Section 515(b)(8) of the Act, which allows the operator to create permanent impoundments if certain standards are met. The so-called exemption to the prime farmland soil-reconstruction standards is really just a recognition that if the impoundment performance standards are met, then there is no need to reconstruct the soil on the area which will be inundated. OSM has added the requirement that the regulatory authority determine that any water body approved must be designed and constructed to minimize loss of prime farmland to ensure that construction of such water bodies does not become merely a means to avoid application of the prime farmland standards.

Final Section 823.11(c) sets forth prime farmland exemptions based upon the "historical use" clause and the "grandfather" clause of Section 785.17(a). Four commenters supported the establishment of a cutoff date for grandfathered prime farmlands. No comments were received relative to the proposed language of this section, and the proposed rule has been adopted with minor change.

On July 30, 1982, OSM adopted an interim final rule establishing April 3, 1983, as the termination date for all so-called "grandfather" exemptions to the prime farmland performance standards. *47 FR 32939,* July 30, 1982. On September 10, 1982, the U.S. District Court for the District of Columbia issued an order in Peabody Coal Company et al. v. Watt, Civ. Nos. 81-0645, 81-0693, 81-2875 and 81-0708, declaring the grandfather cutoff date rule to be unlawful and void and enjoining the Secretary from implementing the rule. (See *47 FR 44116,* October 6, 1982.) In compliance with that order and the Memorandum Opinion filed by the Court on December 3, 1982, OSM has deleted the grandfather cutoff date at Section 716.7(a)(2) of the initial program rules and Section 785.17(a)(5) of the permanent program rules.

H. SECTION 832.12 - SOIL REMOVAL AND STOCKPILING

Final Section 823.12 has been reorganized from the proposed rule, a new paragraph (a) has been added, and the other paragraphs have been redesignated.

Final Section 823.12(a) requires prime farmland soils to be removed from the areas to be disturbed before drilling, blasting, or mining.

Two commenters suggested that the introductory paragraph of Section 823.12 point out that prime farmland soils must be removed only where overburden is excavated for the mining of coal. One of these commenters referenced a previous OSM brief which stated that the Part 823 soil-removal requirements applied only to areas to be affected by operations that involve removal of the soil horizons. This commenter stated that unless this change is made, the rule would require removal of soil horizons from unmined lands within the permit area. OSM has clarified the final rule by addition of new Paragraph (a) which requires that soil be removed from all disturbed areas. In this respect, the prime farmland rules are no different from the general topsoil rules, under which the topsoil must be removed from areas to be disturbed.

Final Section 823.12(b) references the requirements of Section 823.14(b) in determining the depth of soil and soil materials to be used and stored for later soil reconstruction.

Final Section 823.12(c)(1) requires the removal of the topsoil or substitute material and, if not utilized immediately, the stockpiling of this soil separately from spoil and other excavated materials including the other soil horizons.

The proposal used the phrase "entire A horizon" rather than the word "topsoil." The Illinois Department of Mines and Minerals suggested that OSM modify its use of soil horizon terms to conform to the new classification established by the SCS. The original definition of topsoil in Section 701.5 included the A horizon only. The A horizon contained a number of subclassifications including the A1 and A2 subhorizons. The use of the term "A horizon" in Section 515(b)(7) of the Act encompasses both the A1 and A2 subhorizons. Recently, the SCS has redesignated the A2 subhorizon as a separate master horizon identified as the E horizon. Thus, to ensure consistency between the two agencies, OSM will revise the topsoil definition to specifically include both the A and E horizons, when the final topsoil rules are published. To avoid confusion as to which horizons should be removed and stored separately, OSM has changed all references in these prime farmland rules from the term "A horizon" to the word "topsoil" to clarify that those soil materials which Congress intended to be removed as the A horizon will continue to be removed, stored, and replaced as the surface soil layer on prime farmland. This change in terminology has no substantive effect.

OSM proposed to allow use of substitute soil materials if such materials would "create a final soil having an equal or greater productive capacity than that which existed prior to mining."

One commenter supported the wording "equal or greater productive capacity." Another commenter suggested that the rule limit the use of substitute material to that which will have a "greater productive capacity" in keeping with the statutory language of Section 515(b)(7)(A) of the Act. OSM has accepted this comment and has revised the final rule accordingly.

Final Section 823.12(c)(2) requires the removal of the B or C horizons or other suitable soil material. If not utilized immediately, this material must be stockpiled separately from spoil and other excavated materials, including the topsoil. Combinations of such materials are allowed where they have been shown to be equally or more favorable for plant growth then the B horizon.

One commenter requested changing the proposed reference to "B and C" horizons to "B or C" horizon to conform to Section 515(b)(7)(B) of the Act, which requires that the operator "segregate the B horizon of the natural soil, or underlying C horizons * * *." OSM agrees that the suggested language is consistent with the Act, and the final rule reflects this change. Another commenter stated that a mix of B and C soil horizons should not be allowed until actual proof is provided that the mix will produce equal or greater yields. A second commenter pointed out that mixing of B and C soil horizons is common practice in the State of Illinois, yet there is no verification that the mixed soil horizons will achieve equal or greater productivity. Another commenter reported crop yields of 129 bushels of corn per acre on a 100-acre experimental plot in Illinois through the mixing of the B and C soil horizons. Another commenter suggested regulatory language that quoted Section 515(b)(7)(B) of the Act. A final commenter supported the proposed rule and stated it would be less burdensome in actual practice and more beneficial to the environment of a greater productive capacity can be proven with soil-horizon mixing. OSM and SCS are aware of soil-mixing studies in Illinois which are showing promising results. (McSweeney and others, 1981; Fehrenbacher and others, 1982; Jansen, 1982). The final rule adopts language from Section 515(b)(7)(B) of the Act and allows mixing of soil materials where the combinations have been shown to be equally or more favorable for plant growth than the B horizon.

Final Section 823.12(d) requires that soil stockpiles be placed within the permit area where they will not be disturbed or subject to excessive erosion. When stockpiles are left in place for more than 30 days, the general topsoil-storage performance standards of Sections 816.22 or 817.22 of this chapter apply. No comments were received on proposed Section 823.12(c) (which is the corresponding provision of the proposed rule), and the language of final Section 823.12(d) is essentially the same as proposed.

I. SECTION 823.14 - SOIL REPLACEMENT

Final Section 823.14(a) requires that the SCS establish soil-reconstruction specifications within each State on the basis of standards of the NCSS. These specifications must include, at a minimum, physical and chemical characteristics of reconstructed soils, soil descriptions containing soil-horizon depths, soil densities, soil pH, and any other specifications set by the SCS. These specifications must be sufficient to create a final soil capable of achieving yields equal to or higher than those of nonmined prime farmland in the surrounding area.

One commenter asked OSM to encourage the Secretary of Agriculture to publish specifications for prime farmland soil reconstruction in the Federal Register. OSM has recommended to the SCS that they publish these specifications for public review.

One commenter wanted to include provisions for draining ponded water within 24 hours after a maximum rainfall event of 10-year frequency. Another commenter proposed a new paragraph that would provide detailed requirements that the operator restore the following soil parameters to premining conditions: density, texture, porosity, permeability, pH, exchange capacity, and water-holding capacity. This commenter stated that such standards were necessary if OSM intended to remove the moist-bulk-density standard. OSM and SCS believe that, where appropriate, specifications for the listed parameters should be part of the soil-reconstruction specifications established within each State by the SCS and the regulatory authority. Thus, they need not be part of this rule. The same commenter requested OSM to spell out more closely how the soil-reconstruction standards would be applied in practice, in lieu of the bulk-density standard. This commenter pointed out that where soil-horizon replacement is practiced in soil reconstruction, the standards can be fairly easily applied since the postmining soil should be similar to the premining soil. However, where mixing of profiles is done in soil reconstruction, OSM should spell out more specifically how the premining soil characteristics will be used as a standard for soil reconstruction.

OSM and SCS agree that where soil mixing is approved, the quantity of various soil materials and methods utilized in mixing is important and must be spelled out in detail in the reclamation plan so that equal or higher levels of productivity may be achieved. However, the specific details of utilizing substitute materials and mixing of soil materials must be evaluated on each site by the regulatory authority and the SCS. National rules attempting to set the means for achieving the performance standard would serve no useful purpose because of the diversity of soils and reconstruction methods that may be utilized.

One commenter wanted to make sure that the regulatory authority has input into the formulation of these specifications so that they address the concerns of the regulatory authority. Section 515(b)(7) of the Act requires that the Secretary of Agriculture develop specifications for removal, storage, replacement, and reconstruction of prime farmland soils. The SCS, acting for the Secretary of Agriculture, recognizes that close coordination with the regulatory authority is necessary in order that a sound prime farmland restoration program is developed. The SCS is taking positive action within each State to assure that the regulatory authority has ample input into the soil-reconstruction specifications.

Another commenter pointed out that soil-description data should not be referenced as "standards," stating that the parameters listed are useful guidelines for assuring soil quality. This commenter also stated that postmining soil will never be precisely the same immediately following mining as it was before mining and that the optimum conditions for postmining soils are best determined on a site-specific basis. OSM and SCS agree that the use of the word "standard" in this instance is not appropriate and have changed the word "standard" to "specification" for soil reconstruction to be consistent with Section 515(b)(7) of the Act. Also, OSM and SCS are aware that the postmining soil condition will never be precisely the same as the premining soil condition. However, this should not prevent the operator from achieving equivalent levels of yield as nonmined prime farmland in the surrounding area, as required by Section 519(c)(2) of the Act.

One commenter did not believe that studies show consistent relationships between soil density and productivity, and thus, thought soil density should not be used as a soil-reconstruction criterion. This commenter felt that a rigid set of standards for various soil parameters will not provide for the necessary trade-offs among physical and chemical soil properties when evaluating a soil-reconstruction plan. For these reasons, this commenter suggested that premining soil parameters be informational material for the regulatory authority to use in evaluating prime farmland reconstruction plans and for evaluation of soil reconstruction in the field.

OSM and SCS do not agree with this commenter with respect to his evaluation of consistent relationships between soil density and productivity. One established consistent relationship between soil density and productivity of the soil is that, given like soils, soil productivity decreases as soil density increases. (Guernsey and others, 1979; Smith, 1981) OSM and SCS agree, however, that a rigid set of national specifications for soil parameters will not provide for the necessary trade-offs among physical and chemical soil properties. This is why OSM and SCS have required, in Section 785.17(c)(1)(ii), a "range of soil densities" to be reported in the soil survey.

Under Section 823.14(a), the SCS will establish the soil-reconstruction specifications within each State to be consistent with the standards of the NCSS. These premining prime farmland soil specifications are to be used before issuing a permit in evaluating the technological capability of the operator to return prime farmland soils to their premining capability and for evaluation of prime farmland soil reconstruction after mining has taken place for release of the performance bond under Subchapter J.

Another commenter wanted to delete references to "or greater productive capacity" in proposed Part 823 because: (1) The operator should not be required to reclaim the land to a higher productive capacity and (2) returning the land to equal productivity meets the intent of the Act.

Section 510(d)(1) of the Act requires that the regulatory authority make a finding prior to issuing a permit to mine prime farmland that: (1) The operator has the technological capability to restore the mined land to levels of yield equivalent to, or higher than, those of nonmined prime farmland in the surrounding area and (2) he or she can meet the soil-reconstruction specifications of Section 515(b)(7) of the Act. Because the finding under Section 510(d)(1) of the Act ties the achievement of equal or higher levels of yield to meeting the soil-reconstruction specifications, achievement of such yields is the goal of Section 823.14(a). However, operators are not required to achieve higher levels of yield because the standard is equal or higher levels of yield. However, for prime farmland topsoil-substitute materials to be approved under Section 823.12(c)(1), the operator must show that the topsoil substitute materials will have a greater productive capacity.

Final Section 823.14(b) requires, in general, that the depth of reconstructed prime farmland soils be 48 inches. Specifications for greater or lesser depths will be provided to the regulatory authority by the SCS based upon the soil survey and established crop yields to assure the restoration of soil productivity. The reference in the proposed rule to specification of soil-horizon depths by the SCS to the regulatory authority has been removed from this paragraph and placed in new Sections 823.4(a) and 785.17(d)(2) as a general requirement of soil-reconstruction specifications.

Three commenters expressed concern with respect to the root-inhibiting layers found in prime farmland soils. These commenters felt that where root-inhibiting layers are found at less than 48 inches of soil depth, a 48-inch depth of soil material should be replaced regardless, because: (1) The degree of inhibition of roots and the resulting effect on crop productivity is highly variable, (2) the disturbance of prime farmland soils in the mining and reclamation process requires that a greater depth of soil be replaced, (3) the literature does not support reconstructed soil depths of less than 48 inches, (4) unless a soil layer actually prevents root penetration, there is no justification to limit the reconstructed depth to the top of that restrictive layer, and (5) the use of the proposed language will result in sharply different reclamation work among the States.

OSM and SCS recognize the fact that root-inhibiting layers exist in soils and are highly variable with respect to their physical and chemical makeup and their effect on crop yields. Because of this high degree of variability, OSM and SCS agree that the SCS within each State must determine the soil-horizon depths to be utilized in prime farmland soil reconstruction. In this manner, site-specific variables can best be addressed. Also, coordination across State lines is currently done with SCS soil surveys, thus reducing drastic differences in soil-reconstruction specifications between States. OSM and SCS have further clarified the concept of root-inhibiting layers by specifying in the rule that soil horizons which restrict or prevent roots from further penetration and have little or no beneficial effect on soil productive capacity will be considered inhibiting. In keeping with the preamble of the proposed rule *(47 FR 19079,* May 3, 1982), the depth requirement of this section is a general requirement, to be delineated more specifically by the SCS on the basis of the soil survey.

OSM and SCS agree that a depth of at least 48 inches of soil is normally necessary to assure that the required soil productivity is restored; however, root-inhibiting soil layers do occur in a few prime farmland soils at lesser depths and must be recognized. Where these restrictive soil layers exist at depths of less than 48 inches, the process of excavating and stockpiling horizons and reconstructing the soils can create a soil that has better characteristics because it lacks these natural restrictive layers.

Another commenter wanted "48 inches" changed to "40 inches" to conform to the prime farmland definition in 7 CFR 657.5. The 40-inch depth of prime farmland soil referred to in 7 CFR 657.5 is the basic depth that SCS uses to evaluate the physical and chemical properties of the soil to determine if the soil qualifies as prime farmland. The 48-inch depth of soil specified in these rules reflects the depth of soil needed to sustain high crop yields found for prime farmland soils and

also reflects soil-reconstruction experiences of two major agricultural States, Illinois and North Dakota (see their State programs, which are listed under "Reference Materials") which have many years of experience in reconstructing mined agricultural lands. Researchers in Iowa found that a depth of at least 48 inches is required to attain county average yield levels. (Drake and Ririe, 1981) Other commenters supported the 48-inch standard and noted that: (1) At least 48 inches is required for adequate water retention, (2) at least that much soil is needed to assure an acceptable soil depth after erosion losses, and (3) 48 inches of soil is needed to assure that operators achieve the required restoration of soil productivity in a reasonably prompt manner.

Two commenters objected to the proposal to delete the scarification requirement of previous Section 823.14(b). They felt that: (1) It has proven beneficial in the past to provide a physical transition between soil horizons in order to promote root penetration and water retention and percolation, and (2) scarification is just one method used to reduce compaction and it would be appropriate to allow other methods of loosening the soil. Another commenter supported the proposed deletion because the rule was unnecessary and burdensome.

OSM and SCS recognize that confusion exists with respect to the distinction between scarification of spoil material before replacement of soils for root growth and soil tillage to alleviate compaction. Previous Section 823.14(b) required that scarification take place in a manner consistent with Sections 816.102(e) and 817.102(e) before any soil material was placed on graded spoil. This requirement was intended specifically to minimize erosion and topsoil instability. Previous Section 823.14(c) required the placement of soils in a manner that avoided excessive compaction. One method of accomplishing this is soil tillage. This requirement applied to prime farmland soils placed upon scarified spoil materials. Under these final rules, the operator must still replace prime farmland soils with proper compaction, as determined by the SCS from the soil survey. However, the requirement for scarification of the interface between spoil and prime farmland soils has been eliminated, because slippage control is not always necessary on relatively level prime farmland.

Final Section 823.14(c) requires that the operator replace and regrade the soil horizons with proper compaction and uniform depth. Tillage can continue to be performed to alleviate compacted soil conditions. This final rule is unchanged from the proposed rule.

One commenter stated that in Section 823.14(c) OSM has presented a common-sense approach to the compaction problem. Two other commenters felt that the use of bulk density in measuring soil compaction should not be deleted from the rules. One commenter felt that "proper compaction" was not well enough defined. Another commenter noted that: (1) Compaction had a detrimental physical effect on vegetative growth and crop yields and (2) the single most useful and reliable quantitative measure of compaction is bulk density. The commenter added that bulk density should be measured for the entire depth to which plant roots extend and that there is no optimal bulk density for all soils, because of the variability of silt, sand, clay, and organic matter. For these reasons, this commenter felt that it is critical that bulk density be measured before mining.

OSM and SCS agree that compaction of soil horizons does decrease vegetative growth and crop yields (Guernsey and others, 1979, pp. 69-79) and that there is no optimal bulk density for all soils because of the differences in the makeup of soils (Smith, 1981). For these reasons, soil density has been retained as a soil-reconstruction specification to be specified by the SCS within each State. The SCS within each State will determine what constitutes "proper compaction" and whether or not bulk density will be the measure of soil density.

Final Section 823.14(d) requires that the operator replace the B horizon, C horizon, or other suitable material which must be removed to the thickness which meets the minimum depth requirements to restore soil productivity. Comments received relative to B or C soil-horizon mixing are answered earlier in this preamble in the discussion of Section 823.12(c)(2). Final Section 823.14(d) is unchanged from the proposed rule.

Final Section 823.14(e) requires that the operator replace the topsoil materials to a thickness equal to, or exceeding that of, the original surface soil layer. This final rule is unchanged from the proposed rule.

One commenter wanted to change the term "equal or exceed" to the term "not less than." This commenter stated that the operator should not be required to exceed the thickness of the original surface. OSM agrees with this comment but is not changing the language because the phrase "equal or exceed" does not require the final surface soil layer to exceed the original thickness.

J. SECTION 823.15 - REVEGETATION AND RESTORATION OF SOIL PRODUCTIVITY

Final Section 823.15 provides special ground-cover and cropping requirements which apply to surface coal mining operations on prime farmland. The heading of previous Section 823.15 has been changed to include "restoration of soil productivity," which more accurately identifies the content of the section. The introductory paragraph of the previous section has not been adopted because the requirements in the remainder of the section are self-explanatory.

On commenter wanted a sentence added clearly stating that the burden of proof is on the operator to prove that the land has been restored.

Section 823.15 applies to all surface coal mining and reclamation operations on prime farmland, except for that exempted under Section 823.11. It is the operator's responsibility to meet all of the applicable performance standards in Chapter VII, including the ground-cover and cropping requirements. In addition, the operator cannot obtain the complete release of the performance bond until he or she demonstrates compliance with Section 823.15 and the corresponding requirement in Subchapter J.

Final Section 823.15(a) requires that the soil surface be stabilized with a vegetative cover or other means to control soil loss through erosion following soil replacement. This final rule is unchanged from the proposed rule.

One commenter wanted a soil-erosion control system added. Another commenter suggested adding a sentence requiring the regulatory authority to approve erosion-control plans before final grading. Further specificity in this regard is not necessary. Section 823.15(a) provides a performance standard that requires erosion control. In addition, the reconstruction plan required under Section 785.17(c)(2) adequately covers erosion control and provides the regulatory authority and operator with a planning tool for alleviating potential problems.

Final Section 823.15(b) imposes a general requirement that prime farmland soil productivity be restored. It contains eight paragraphs specifying how the operator must comply with that requirement, including an average-yield requirement. These eight paragraphs contain the requirements that were proposed in Section 823.15 (b) and (c).

Three commenters agreed that crops should be grown to prove restoration of soil productivity and stated that this is the only way to meet the requirements of the Act. Several commenters quoted the District Court's opinion of February 26, 1980, which held that the Act did not require operators to actually farm the land. In re: Permanent Surface Mining Regulation Litigation, Mem. opin. at 59, (D.D.C. Feb. 26, 1980). Two of these commenters wanted to change the language so that cropping is an optional method of showing that the restored land has been returned to the capability of achieving levels of yield equivalent to those of surrounding unmined land within a reasonable time. Three of these commenters proposed the use of a soil survey as acceptable for bond-release purposes. One commenter asked that ground cover or cropping be deleted because such a requirement was too narrow a standard on the basis of the Court's opinion.

Although the District Court's decision of February 26, 1980, appears to prohibit OSM from requiring that actual crop yields be used as the means for determining the success of soil reconstruction, the May 16, 1980, decision appears to support such a requirement. See In re: Permanent Surface Mining Regulation Litigation, Mem. opin. at 5-6, (D.D.C. May 16, 1980). In light of these apparent conflicting decisions, OSM has adopted the guidance provided in the later May 16, 1980, decision. Therefore, Section 823.15(b) requires that crops be grown to demonstrate the restoration of soil productivity. OSM has determined that cropping is the only method currently available to test the restoration of the productivity of prime farmland soils because insufficient research has been published that demonstrates the reliability of any other method.

One commenter was concerned that the proposed rule increased the likelihood that inadequate soil-reconstruction practices will be used and therefore will jeopardize the successful restoration of prime farmland productivity. Another commenter expressed concern that reference areas can be easily mismanaged so that the lowest amount of yield is realized on the reference areas and that management levels and crop-yield data can easily be manipulated so that the crop record used will be substantially lowered. The regulatory authority and the SCS will be able to detect inadequate soil-reconstruction practices and prevent any mismanagement and manipulation of yields. Moreover, the performance standards of Section 823.15 are sufficiently detailed and explicit to ensure restoration of premining productivity. In

addition, the requirements to demonstrate soil productivity and the criteria for bond release also ensure successful restoration.

Another commenter pointed out that mining and reclamation methods which would optimize restoration are still to be developed. This commenter's understanding was that an agronomist at the University of Illinois has predicted a dim future for crop productivity on surface mined lands where B and C horizon mixing is allowed.

The commenter's conclusion about yields of reclaimed lands where B and C soil horizons are mixed cannot be fully supported by the agronomist's data. These data show that yields for some of the reconstructed soil plots are nearly the same as for similar soils in adjoining areas that have not been mined. (Jansen, 1982.) Of course, Section 823.12(c)(2) does not allow the mixing of the B and C horizons unless the operator can demonstrate that such a mixture will be equally or more favorable for plant growth than the B horizon. The referenced studies would certainly be relevant to the evaluation of any proposal to mix horizons, as would any additional studies or information submitted by the operator.

Final Section 823.15(b)(1) requires that the period for measuring soil productivity of the reconstructed soil that is necessary for bond release be initiated within 10 years after completion of soil replacement.

One commenter asked that a time limit of 18 months be established between final grading and soil replacement so that the operator will perform soil replacement concurrently with reclamation. OSM does not agree with this proposed change. The purpose of Section 823.15(b)(1) is to establish the latest date by which proof of soil productivity must begin. A time limit to assure timely reclamation is not needed because the soil-reconstruction plan required under Section 785.17(c)(2) must be approved by the regulatory authority, and unreasonable delays in such a plan should not be approved. In addition, under Sections 816.100 and 817.100, all operators are required to proceed with reclamation efforts, including topsoil replacement, as contemporaneously as practicable with mining.

One commenter asked what would happen if, after 10 years had passed, the regulatory authority found that the soil productivity was not restored for a specific permit area.

Under Section 823.15(b)(1) the period for measuring soil productivity is to begin within 10 years. If a crop-rotation sequence is followed, it could be as much as 15 or 16 years after soil replacement before the required minimum 3 crop-year measurement period is completed. If at that time the operator has failed to achieve equivalent or higher yields, alternative reclamation approaches could be used by the operator or, in some situations, the remaining portion of the bond could be forfeited to ensure reclamation completion.

Final Section 823.15(b)(2) requires that for proof of soil productivity, a reference crop be grown on a representative sample or on all of the mined and reclaimed prime farmland area. Also, the measurement of soil productivity for bond release must utilize a statistically valid sampling technique at a 90-percent statistical confidence level as approved by the regulatory authority in consultation with the Soil Conservation Service.

The proposed rule would have required that crops be grown on any portion of the disturbed area that is prime farmland historically used as cropland. Eight commenters were concerned about the meaning of "any portion of" with respect to disturbed prime farmland historically used as cropland. Four commenters suggested that the use of sound statistical sampling methods be required for measuring the success of soil productivity.

The phrase "any portion of" is not being adopted. OSM and SCS have agreed that the amount of prime farmland area used to grow crops for proof of soil productivity could include the entire mined and reclaimed prime farmland area or a portion of the mined and reclaimed prime farmland area which would result in a statistically valid sample at a 90-percent confidence level. Because of the wide variation of acceptable crop sampling techniques which are utilized over coal-producing areas, OSM and SCS have left the selection of these statistically valid sampling techniques to the regulatory authority in consultation with the SCS. Also, this requirement for a statistically valid sample is needed to ensure that proof of successful reclamation is judged uniformly and is consistent with the general revegetation performance standards of Sections 816.116 and 817.116.

One commenter was concerned that the proposed rule will allow a lesser standard to be used to determine productivity because he feels it will not require test yields on a site-specific basis. OSM points out that the requirements

of this section specify that site-specific tests of yield utilize a representative sample of the disturbed area or the entire disturbed area.

Final Section 823.15(b)(3) specifies that the measurement period for determining the average annual crop production (yield) for proving soil productivity for bond release is a minimum of 3 crop years. The substance of this final rule is unchanged from the proposed rule.

Three commenters supported 3 nonconsecutive crop years for the 3-year period for proving soil productivity. One commenter was concerned about the meaning of "average annual crop production" and noted that this period of time is very short and that yields during such short periods will fluctuate widely. Under final Section 823.15(b)(3), the 3 crop years need not necessarily be consecutive years. They could be 3 crop years in a particular crop-rotation sequence. "Average annual crop production" means the average yield of the specified crop during the 3 crop years used for the test.

OSM and SCS realize that this time period is short and that yields could fluctuate widely. However, the reference yields on nonmined prime farmland in the surrounding area should also fluctuate accordingly, thus allowing a comparison of yields. Furthermore, possible adjustments based on other factors described below will allow meaningful comparisons of yields.

Section 823.15(b)(4) requires that the level of management utilized during the specified measurement period be the same as that used on nonmined prime farmland in the surrounding prime farmland area. OSM has imposed this requirement to be consistent with Section 519(c)(2) of the Act.

One commenter was concerned that this section does not adequately define standards for levels of management. The regulatory language that has been adopted implements and is consistent with Section 519(c)(2) of the Act, which requires management levels to be the same as those used on nonmined prime farmland in the surrounding area. Therefore, no additional language is needed. Another commenter wanted the level of management to be discretionary with the operator. Because Section 519(c)(2) requires equivalent management practices as a condition of bond release, use of the permissive "may" as suggested rather than the mandatory "shall" would be inconsistent with the Act.

Final Section 823.15(b)(5) requires that proof of soil productivity for bond release be based upon achieving levels of yield equal to, or higher than, those of the reference crop established for the same period. This section has been changed from the proposed rule to remove the obsolete term "soil type." In its place, the phrase "similar texture or slope phase of the soil series" is used. This is not a substantive change but more accurately describes the reference soils.

One commenter wanted to encourage States to adopt their own yield-measurement systems. OSM points out that this is the intent of the final rule, which specifies that the State regulatory authority in consultation with the SCS in each State will adopt yield-measurement systems.

Another commenter wanted clarification that averaging of different crop yields is not allowed. The final language precludes averaging the yields of different kinds of crops, by requiring comparison to the reference crop.

Two commenters pointed out that in some situations it may be impossible to find the same crop growing on the same soil type within close proximity for the purpose of comparison. One of these commenters felt that it would make more practical and technical sense to use a similar soil type for the sake of comparison. Another commenter requested updating the obsolete term "soil type." OSM agrees and the final rule reflects these changes.

Final Section 823.15(b)(6) requires that the reference crop selected for proof of soil productivity be selected from the crops most commonly produced on the surrounding prime farmland. Where row crops are selected as the reference crop and two or more row crops are produced in the local area, the reference crop should be the row crop requiring the greatest rooting depth. This section has been changed from the previous rules to require at least one deep-rooted crop to be used as a reference crop in the 3-year period for proving soil productivity.

Several commenters wanted to delete the last sentence of this paragraph in order to allow crop rotations with alfalfa or other hay crops. OSM and SCS have determined that this sentence does not preclude the use of hay crops in rotation with row crops during the period for proving soil productivity. Also, OSM and SCS note that hay crops are included in the definition of cropland in Section 701.5. Use of perennial plants for hay is within the regulatory authority's discretion if

those kinds of crops are among the crops most commonly produced on surrounding prime farmland. One commenter wanted to delete this section, because there is sufficient authority in proposed Section 823.15(c)(2) to require the demonstration of productivity using a management system which is at the same level of management used in the surrounding prime farmland areas. OSM and SCS do not agree. This section is needed to specify selection of reference crops. Three commenters supported the proposed rule, but one stated that more than one reference crop could be used for the 3-year proof period. OSM and SCS agree that more than one reference row crop or hay crop could be used in the 3-year proof period. This would take advantage of existing crop rotations during the test period.

Final Section 823.15 (b)(7) and (b)(8), pertaining to the determination of reference-crop yields, were proposed under Section 823.15(c)(3) but have been separated and renumbered for clarity.

Final Section 823.15(b)(7)(i) provides that current yield records of representative local farms may be utilized as one of the two means of establishing the reference crop yield standard for bond release. The SCS must concur in the use of the standard. OSM and SCS have clarified this paragraph to include only current yield records of farms in the surrounding area.

One commenter wanted the States to have the power to adopt measures which would utilize a site-specific system to measure productivity which reflected actual crop production of similar unmined soils. OSM and SCS believe that Section 823.15(b) allows the use of such a system.

Final Section 823.15(b)(7)(ii) provides that the average county yields for a crop year recognized by the USDA may be utilized as the other of the two means of establishing the crop-yield standard for bond release. The SCS will adjust these yields to reflect the productivity of individual prime farmland soils.

Thus, under final Section 823.15(b)(7) (i) and (ii), the reference crop could be on a reference area of a surrounding area of prime farmland or the reference crop could be a statistical standard generated by the SCS from USDA county averages. OSM and SCS have broadened the USDA sources from which these yield standards may be taken, including average county yields established by sources other than the USDA Statistical Reporting Service (SRS) as proposed. The USDA and SCS remain an integral part of the determination of the reference-crop yield. This change was made on the basis of commenters' expressed concern that other sources of crop-yield data be recognized. Sources of crop data such as State Departments of Agriculture, universities, and all USDA agencies are appropriate for determining reference-crop yields as long as these sources of data are approved by the regulatory authority and adjusted by the SCS to reflect the productivity of individual prime farmland soils.

One commenter asked whether USDA SRS average yields are the same as those of the State Departments of Agriculture. Another commenter wanted to use the formula developed by the Illinois Department of Agriculture. USDA SRS yields are compiled in cooperation with the State Departments of Agriculture and both would be appropriate for use under Section 823.15(b)(7). Two commenters objected to adjusted yields, while another commenter wanted the rule to make clear that adjustments to county average yields should take into account differences in yield within prime farmland soils. Section 823.15(b)(7)(i) provides the option to compare yields with similar adjacent lands. If this option is used, adjustments in USDA yields may not be needed. Yield data from surrounding prime farmland soils may not be readily available, and for this reason the option of using adjusted county average yields is provided.

Final Section 823.15(b)(8) allows crop yields to be adjusted, with SCS concurrence, for disease, pest, and weather-induced seasonal variations and for specific differences in management practices where the overall management practices of the crops being compared are equivalent. This section has been modified from the proposed rule which would have included only seasonal variations caused by weather. Adjustments in reference yields for disease and pests could be needed to account for unusual conditions in the measurement period that are beyond an operator's control and that skew comparisons.

The allowance in Section 823.15(c)(8)(ii) for differences in specific management practices recognizes that there are many individual crop-management variables, any one of which could appreciably change crop yields. Some of these practices include time and depth of planting; time, depth, and kind of tillage or whether tillage is needed at all; pesticide and fertilizer management; irrigation and drainage management; and time of harvest. Although Section 519(c)(2) of the Act requires that bond release for soil productivity be based upon "equivalent management practices," it would be difficult to find, no less compare, reference crops from which every management decision is identical with those for the

crop on the reconstructed soil. Moreover, to require the monitoring of every management practice would not be technically sound from a regulatory standpoint because of the number of variables and uncertainties involved and the lack of methods and measures to compare these uncertainties. OSM has decided that the most practical solution is to require reference crops with overall equivalent management practices but to allow yield adjustments, if necessary, to account for differences in specific practices that could appreciably affect yield.

One commenter stated that this section is not needed because county average yields include adjustments for weather. OSM has determined that this section is needed to account for local management alternatives and variations of disease, pests, and weather that may affect an otherwise successful crop year.

Another commenter favored adjustments for disease and pest-induced variations because disease and pest infestations vary in impact and location in the same or similar ways that weather can. This change has been accepted because OSM and SCS agree that these factors potentially can have a large local effect on crop yields. Another commenter wanted "in consultation with the Soil Conservation Service" retained in this section. OSM has determined that this change is appropriate and is requiring SCS concurrence for such adjustments.

K. REFERENCE MATERIALS

Reference materials (on file in OSM's Administrative Record) used to develop these final rules are as follows:

Drake, L. D., and Ririe, G. T., 1981, A low-cost method of reclaiming strip-mined land in Iowa to agriculture: Environmental Geology, Chapter 3, pp. 267-279

Fehrenbacher, D. J., Jansen, I. J., and Fehrenbacher, J. B., 1982, Corn root development in constructed soils on surface-mined land in western Illinois: Soil Science Society of America Journal, Vol. 46, pp. 353-359.

Guernsey, Lee, Mausel, Paul, Oliver, John, and Smith, D. F., 1979, Technical guidance for evaluating crop yields during the premining and reclamation processes, Volume II: Unpublished report, 84 pp.

Jansen, I. J., 1982, unpublished notes.

McSweeney, K., Jansen, I. J., and Dancer, W.S., 1981, Subsurface horizon blending: An alternative strategy to B horizon replacement for the construction of post-mine soils: Soil Science Society of America Journal, Vol. 45, No. 4.

Nawrot, J. R., and others, 1977, Illinois lands affected by underground mining for coal: Cooperative Wildlife Research Laboratory, Southern Illinois University, Carbondale/Illinois Institute for Environmental Quality, pp. 43-56.

Smith, D. F., 1981, Soil compaction, a question of how much: Unpublished OSM report.

State of Illinois, 1982, Permanent regulatory program: Federal Register, Vol. 47, No. 105, pp. 23858-23883.

State of North Dakota, 1980, Permanent regulatory program: Federal Register, Vol. 45, No. 242, pp. 82214-82248.

U.S. 95th Congress, 1977, Surface Mining Control and Reclamation Act of 1977: 1st Session, House of Representatives, House Report No. 95-493, Conference Report (to accompany H.R. 2).

U.S. Soil Conservation Service, 1951, Soil survey manual (amended): U.S. Department of Agriculture Handbook 18, 503 pp.

U.S. Soil Conservation Service, 1975, Soil Taxonomy -- A basic system of soil clarification for making and interpreting soil surveys (amended): U.S. Department of Agriculture Handbook 436, 754 pp.

U.S. Soil Conservation Service, 1982, National Soils Handbook: U.S. Department of Agriculture, various paginations.

III. PROCEDURAL MATTERS

Executive Order 12291 and the Regulatory Flexibility Act

The Department of the Interior (DOI) has determined that this document is not a major rule under E.O. 12291 and certifies that this document will not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act *(5 U.S.C. 601* et seq .)

The reasons underlying this determination are as follows:

This rule would not have inimical effects on the competitive position, investment or productivity of United States coal operators, or on employment in the coal industry. The Department certifies that this rule would affect a proportionately small number of operators and the impact would be correspondingly small.

National Environmental Policy Act

OSM has analyzed the impacts of these final rules in its "Final Environmental Impact Statement, OSM-EIS-1: Supplement," in accordance with Section 102(2)(C) of the National Environmental Policy Act of 1969 (NEPA) *(42 U.S.C. 4332*(2)(C)). The final EIS is available in OSM's Administrative Record in Room 5315, 1100 L Street, NW, Washington, D.C., or by mail request to Mark Boster, Chief, Branch of Environmental Analysis, Room 134, Interior South Building, U.S. Department of the Interior, Washington, DC 20240.

This preamble serves as the record of decision under NEPA. The following differences are noted between this final rule and the preferred alternative in Volume III of the EIS.

1. This rule removes the grandfather exemption cutoff date. Although the April 3, 1983, cutoff date was included in Volume III of the EIS, its removal is analyzed in the EIS text.

2. A number of editorial and minor substantive changes have been made for clarity including the reorganization of Sections 785.17(c)(3), 785.17(d)(4), 823.12, and 823.15. These changes are within the scope of the EIS analysis.

3. This final rule adds coal preparation plants affecting a minimal amount of land to the exemption from Part 823 for "support facilities" in Section 823.11(a) that was included in the preferred alternative. The analysis of the exemption in the EIS was premised upon an expansive reading of the term "support facilities" and thus is only slightly affected by the inclusion of coal preparation plants.

4. The final rule clarifies when adjustments of reference crop yields for management variations under Section 823.15 will be allowed. This change does not alter the EIS analysis.

Federal Paperwork Reduction Act

The information-collection requirements in Section 785.17 were approved by the Office of Management and Budget (OMB) under *44 U.S.C. 3507* and assigned clearance number 1029-0040. OSM has codified the OMB approval under new Section 785.10 *(47 FR 33683,* August 4, 1982) and has received new OMB approval of these information-collection requirements.

The information required by Section 785.17 will be used by the regulatory authority to determine whether the applicant can meet the prime farmland performance standards of Part 823. The information required by Section 785.17 is mandatory.

Approval of Other Agencies

Section 510(d)(1) of the Act states that, under regulations issued by the Secretary with the concurrence of the Secretary of Agriculture, the regulatory authority shall follow certain procedures in granting permits for surface coal mining operations on prime farmland. The regulations concerning issuance of permits on prime farmland have been developed in consultation with the Secretary of Agriculture in accordance with Section 510(d)(1). By letter dated April 11, 1983, the Secretary of Agriculture, through his authorized representative, Chief, Soil Conservation Service, concurred with the prime farmland provisions of the regulations.

Section 516(a) of the Act states that the Secretary shall promulgate rules and regulations directed toward the surface effects of underground mining activities and requires that such rules and regulations shall not conflict with or supersede any provision of the Federal Coal Mine Health and Safety Act of 1969 or any regulation issued pursuant thereto. The written concurrence of the head of the department which administers the Act is required before final rules may be promulgated. By letter dated April 5, 1983, concurrence has been obtained from the head of the Mine Safety and Health Administration, which administers the Federal Mine Safety and Health Act of 1977, the successor to the Federal Coal Mine and Safety Act of 1969.

LIST OF SUBJECTS

30 CFR Part 716
Coal mining, Environmental protection, Surface mining, Underground mining.

30 CFR Part 779
Coal mining, Environmental protection, Reporting and recordkeeping requirements, Surface mining.

30 CFR Part 783
Coal mining, Environmental protection, Reporting and recordkeeping requirements, Underground mining.

30 CFR Part 785
Coal mining, Reporting and recordkeeping requirements, Surface mining, Underground mining.

30 CFR Part 823
Agriculture, Coal mining, Environmental protection, Surface mining, Underground mining.

Accordingly, 30 CFR Parts 716, 779, 783, 785, and 823 are amended as set forth herein.

Dated: March 30, 1983.
Daniel N. Miller, Jr., Assistant Secretary, Energy and Minerals.

PART 716 -- SPECIAL PERFORMANCE STANDARDS

SECTION 716.7 [Amended]

1. In Section 716.7, Paragraph (a)(2)(iv) is removed.

PART 779 -- SURFACE MINING PERMIT APPLICATIONS -- MINIMUM REQUIREMENTS FOR INFORMATION ON ENVIRONMENTAL RESOURCES

SECTION 779.27 [Removed]

2. Section 779.27 is removed.

PART 783 -- UNDERGROUND MINING PERMIT APPLICATIONS -- MINIMUM REQUIREMENTS FOR INFORMATION ON ENVIRONMENTAL RESOURCES

SECTION 783.27 [Removed]

3. Section 783.27 is removed.

PART 785 -- REQUIREMENTS FOR PERMITS FOR SPECIAL CATEGORIES OF MINING

SECTION 785.17 [Amended]

4. In Section 785.17, paragraph (a)(5) is removed.

5. In Section 785.17, Paragraph (b) is revised; Paragraphs (c) and (d) are redesignated as Paragraphs (d) and (e), respectively; new Paragraph (c) is added; and newly redesignated Paragraphs (d) and (e)(2) are revised to read as follows:

SECTION 785.17 - PRIME FARMLAND.

* * * * *

(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 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 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 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 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 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, 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, paragraph (c) of this section shall apply.

(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 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.

(i) U.S. Department of Agriculture Handbooks 436 and 18 are incorporated by reference as they exist on the date of adoption of this section. Notices of changes made to these publications will be periodically published by OSM in the Federal Register. The handbooks are on file and available for inspection at the OSM Central Office, U.S. Department of the Interior, 1951 Constitution Avenue, NW., Washington, D.C., at each OSM Technical Center and Field Office, and at the central office of the applicable State regulatory authority, if any. Copies of these documents are also available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, Stock Nos. 001-000-02597-0 and 001-000-00688-6, respectively. In addition, these documents are available for inspection at the national, State, and area offices of the Soil Conservation Service, U.S. Department of Agriculture, and at the Federal Register library, 1100 L Street, NW., Washington, D.C. Incorporation by reference provisions were approved by the Director of the Federal Register on June 29, 1981.

(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.

(2) A plan for soil reconstruction, replacement, and stabilization for the purpose of establishing the technological capability of the mine operator to comply with the requirements of Part 823 of this chapter.

(3) Scientific data, such as agricultural-school studies, for areas with comparable soils, climate, and management that demonstrate that the proposed method of reclamation, including the use of soil mixtures or substitutes, if any, will achieve, within a reasonable time, levels of yield equivalent to, or higher than, those of nonmined prime farmland in the surrounding area.

(4) The productivity prior to mining, including the average yield of food, fiber, forage, or wood products obtained under a high level of management.

(d) Consultation with Secretary of Agriculture:

(1) The Secretary of Agriculture has responsibilities with respect to prime farmland soils and has assigned the prime farmland responsibilities arising under the Act to the Chief of the U.S. Soil Conservation Service. The U.S. Soil Conservation Service shall carry out consultation and review through the State Conservationist located in each State.

(2) The State Conservationist shall provide to the regulatory authority a list of prime farmland soils, their location, physical and chemical characteristics, crop yields, and associated data necessary to support adequate prime farmland soil descriptions.

(3) The State Conservationist shall assist the regulatory authority in describing the nature and extent of the reconnaissance inspection required in paragraph (b)(1) of this section.

(4) Before any permit is issued for areas that include prime farmland, the regulatory authority shall consult with the State Conservationist. The State Conservationist shall provide for the review of, and comment on, the proposed method of soil reconstruction in the plan submitted under paragraph (c) of this section. If the State Conservationist considers those methods to be inadequate, he or she shall suggest revisions to the regulatory authority which result in more complete and adequate reconstruction.

(e) * * *

(2) The permit incorporates as specific conditions the contents of the plan submitted under paragraph (c) of this section, after consideration of any revisions to that plan suggested by the State Conservationist under paragraph (d)(4) of this section;

* * * * *

(Pub. L. 95-87, *30 U.S.C. 1201* et seq.)

6. Part 823 is revised to read as follows:

PART 823 -- SPECIAL PERMANENT PROGRAM PERFORMANCE STANDARDS -- OPERATIONS ON PRIME FARMLAND

Section

Authority: Pub. L. 95-87, *30 U.S.C. 1201* et seq.

SECTION 823.1 - SCOPE AND PURPOSE.

This part sets forth special environmental protection performance, reclamation, and design standards for surface coal mining and reclamation operations on prime farmland.

SECTION 823.4 - RESPONSIBILITIES.

(a) The U.S. Soil Conservation Service within each State shall establish specifications for prime farmland soil removal, storage, replacement, and reconstruction.

(b) The regulatory authority within each State shall use the soil-reconstruction specifications of paragraph (a) of this section to carry out its responsibilities under Section 785.17 and Subchapter J of this chapter.

SECTION 823.11 - APPLICABILITY.

The requirements of this part shall not apply to --

(a) Coal preparation plants, support facilities, and roads of surface and underground mines that are actively used over extended periods of time and where such uses affect a minimal amount of land. Such uses shall meet the requirements of Part 816 of this chapter for surface mining activities and of Part 817 of this chapter for underground mining activities;

(b) Water bodies that have been approved by the regulatory authority as an alternative postmining land use in accordance with Sections 773.15, 780.23, 784.15, 816.133, and 817.133 of this chapter, as applicable, and where the regulatory authority has determined that the water bodies will be designed and constructed to minimize the loss of prime farmland. Such water bodies shall meet the requirements of Sections 816.49 and 817.49 of this chapter; or

(c) Prime farmland that has been excluded in accordance with Section 785.17(a) of this chapter.

SECTION 823.12 - SOIL REMOVAL AND STOCKPILING.

(a) Prime farmland soils shall be removed from the areas to be disturbed before drilling, blasting, or mining.

(b) The minimum depth of soil and soil materials to be removed and stored for use in the reconstruction of prime farmland shall be sufficient to meet the requirements of Section 823.14(b).

(c) Soil removal and stockpiling operations on prime farmland shall be conducted to --

(1) Separately remove the topsoil, or remove other suitable soil materials where such other soil materials will create a final soil having a greater productive capacity than that which exist prior to mining. If not utilized immediately, this material shall be placed in stockpiles separate from the spoil and all other excavated materials; and

(2) Separately remove the B or C horizon or other suitable soil material to provide the thickness of suitable soil required by Section 823.14(b). If not utilized immediately, each horizon or other material shall be stockpiled separately from the spoil and all other excavated materials. Where combinations of such soil materials created by mixing have been shown to be equally or more favorable for plant growth than the B horizon, separate handling is not necessary.

(d) Stockpiles shall be placed within the permit area where they will not be disturbed or be subject to excessive erosion. If left in place for more than 30 days, stockpiles shall meet the requirements of Section 816.22 or 817.22 of this chapter.

SECTION 823.14 - SOIL REPLACEMENT.

(a) Soil reconstruction specifications established by the U.S. Soil Conservation Service shall be based upon the standards of the National Cooperative Soil Survey and shall include, as a minimum, physical and chemical characteristics of reconstructed soils and soil descriptions containing soil-horizon depths, soil densities, soil pH, and other specifications

such that reconstructed soils will have the capability of achieving levels of yield equal to, or higher than, those of nonmined prime farmland in the surrounding area.

(b) The minimum depth of soil and substitute soil material to be reconstructed shall be 48 inches, or a lesser depth equal to the depth to a subsurface horizon in the natural soil that inhibits or prevents root penetration, or a greater depth if determined necessary to restore the original soil productive capacity. Soil horizons shall be considered as inhibiting or preventing root penetration if their physical or chemical properties or water-supplying capacities cause them to restrict or prevent penetration by roots of plants common to the vicinity of the permit area and if these properties or capacities have little or no beneficial effect on soil productive capacity.

(c) The operator shall replace and regrade the soil horizons or other root-zone material with proper compaction and uniform depth.

(d) The operator shall replace the B horizon, C horizon, or other suitable material specified in Section 823.12(c)(2) to the thickness needed to meet the requirements of Paragraph (b) of this section.

(e) The operator shall replace the topsoil or other suitable soil materials specified in Section 823.12(c)(1) as the final surface soil layer. This surface soil layer shall equal or exceed the thickness of the original surface soil layer, as determined by the soil survey.

SECTION 823.15 - REVEGETATION AND RESTORATION OF SOIL PRODUCTIVITY.

(a) Following prime farmland soil replacement, the soil surface shall be stabilized with a vegetative cover or other means that effectively controls soil loss by wind and water erosion.

(b) Prime farmland soil productivity shall be restored in accordance with the following provisions:

(1) Measurement of soil productivity shall be initiated within 10 years after completion of soil replacement.

(2) Soil productivity shall be measured on a representative sample or on all of the mined and reclaimed prime farmland area using the reference crop determined under Paragraph (b)(6) of this section. A statistically valid sampling technique at a 90-percent or greater statistical confidence level shall be used as approved by the regulatory authority in consultation with the U.S. Soil Conservation Service.

(3) The measurement period for determining average annual crop production (yield) shall be a minimum of 3 crop years prior to release of the operator's performance bond.

(4) The level of management applied during the measurement period shall be the same as the level of management used on nonmined prime farmland in the surrounding area.

(5) Restoration of soil productivity shall be considered achieved when the average yield during the measurement period equals or exceeds the average yield of the reference crop established for the same period for nonmined soils of the same or similar texture or slope phase of the soil series in the surrounding area under equivalent management practices.

(6) The reference crop on which restoration of soil productivity is proven shall be selected from the crops most commonly produced on the surrounding prime farmland. Where row crops are the dominant crops grown on prime farmland in the area, the row crop requiring the greatest rooting depth shall be chosen as one of the reference crops.

(7) Reference crop yields for a given crop season are to be determined from --

(i) The current yield records of representative local farms in the surrounding area, with concurrence by the U.S. Soil Conservation Service; or

(ii) The average county yields recognized by the U.S. Department of Agriculture, which have been adjusted by the U.S. Soil Conservation Service for local yield variation within the county that is associated with differences between nonmined prime farmland soil and all other soils that produce the reference crop.

(8) Under either procedure in Paragraph (b)(7) of this section, the average reference crop yield may be adjusted, with the concurrence of the U.S. Soil Conservation Service, for --

(i) Disease, pest, and weather-induced seasonal variations; or

(ii) Differences in specific management practices where the overall management practices of the crops being compared are equivalent.

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