rules at 480–03–19.816/817.111–116 require the revegetation of all disturbed areas following backfilling. In addition, 480–03–19.816/817.102(a)(4) require that backfilling and grading be performed in a manner to minimize erosion and water pollution. These requirements serve as counterparts to and are no less effective than the Federal requirements at 30 CFR 816/ 817.83(b) concerning surface area stabilization of refuse piles.

The Federal regulations at 30 CFR 816/817.83(c)(1) require that all vegetation and organic materials be removed from the disposal area prior to placement of coal mine waste. Where coal mine waste will be placed on preexisting mine benches, the Director is requiring that Virginia comply with the Virginia rules at 480-03-19.816/817.74 concerning placement of excess spoil on pre-existing mine benches. Those rules specifically require, at subsection (a), that all vegetative and organic materials be removed from the disposal area prior to placement. Where coal mine waste will be placed on recently mined-out benches, the Director expects that all vegetation and organic materials will already have been removed by the mining operations. Therefore, Virginia's rules (with the required amendment mentioned above) will provide counterparts to and will be no less effective than the Federal requirements at 30 CFR 816/817.83(c)(1).

The Federal regulations at 816/ 817.83(c)(2) provide that the final configuration of the pile shall be suitable for the approved post-mining land use. Terraces are permitted, but the grade of the outslope between terraces shall not be steeper than 2h:1v (50 percent). The Virginia rules at 480–03– 19.816/817.102(a)(5) provide that disturbed areas shall be backfilled and graded to support the approved postmining land use. Virginia's rules at 480-03-19.816/817.102(g) allow the use of cut-and-fill terraces without imposing any grade limits on the outslope between the terraces. However, restricting outslopes to 2h:1v as the Federal rule requires for refuse piles may conflict with the requirement to return a site to AOC, since premining slopes might have exceeded 2h:1v. Furthermore, Virginia requires, at 480-03-19.816/817.102(a)(3), that postmining slopes not exceed either the angle of repose or such lesser slope as is necessary to achieve a minimum longterm static safety factor of 1.3 and to prevent slides. Therefore, the Director concludes that the Virginia program contains adequate provisions to ensure the slope stability of any cut-and-fill terraces on a site returned to AOC

without imposition of an unduly restrictive slope standard.

The Federal regulations at 30 CFR 816/817.83(c)(3) provide that no permanent impoundments shall be allowed on the completed refuse pile. Virginia has a counterpart to this Federal provision for coal waste which is piled to rise above AOC. However, this Federal provision doesn't appropriately apply in situations where the backfilled material doesn't exceed AOC. In such instances (AOC) the Federal regulations at 30 CFR 816/ 817.102(i) do allow the creation of permanent impoundments on backfilled areas. Therefore, where coal mine waste is used only to return a mined out area to AOC, Virginia need not require compliance with its counterparts to 30 CFR 816/817.83(c)(3).

The Federal regulations at 30 CFR 816/817.83(c)(4) provide for the covering of coal mine waste with four feet of the best available, nontoxic and noncumbustible material. Virginia has a counterpart to these requirements at 480-03-19.816/817.102(f), the general provisions for backfilling and grading. Virginia's provision pertains to all backfilling operations, and this would include backfilling with coal mine waste as Virginia proposes to do. Therefore, the Virginia program contains the requirements of 30 CFR 816/817.83(c)(4) and is, therefore, no less effective than those regulations.

The Federal regulations at 30 CFR 816/817.83(d) provide that refuse piles shall be inspected during construction by a qualified registered professional engineer. These Federal requirements pertain to critical periods during the construction of refuse piles. Virginia's use of coal refuse to achieve AOC will not result in a refuse pile to which the Federal regulations at 30 CFR 816/ 817.83(d) appropriately apply, since there will be no such critical construction periods. Therefore, the lack of an inspection requirement for coal refuse being used to achieve AOC does not render the Virginia program less effective

However, OSM is concerned that key points of Virginia's explanation may not be enforceable because they are not currently part of the approved Virginia program. For example, Virginia stated that some coal mine waste is not "suitable" for the backfill of pre-existing benches or other mined-out areas. The term "suitable" is used several times in Virginia's explanation of the proposed amendments, but the term is not defined. The State did say, however, that the DMLR interprets "suitable" to be a measure of both chemical and physical characteristics. The term "suitable" needs to be defined. Such a definition should clarify "suitable" so that the regulatory authority can consistently apply the term appropriately. The definition should clarify the criteria, both physical and chemical, to be used to distinguish between materials which can and cannot be used for the backfilling of preexisting benches or mined-out areas.

Virginia stated that the DMLR considers the determination of seeps, springs, or other discharges necessary in the designing of a backfill consistent with 480–03–19.816/817.81. Such a determination would be crucial to efforts to successfully prevent acid or toxic drainage. A requirement to provide this crucial information is not explicitly required by the Virginia program, but should be.

Virginia stated that the DMLR assures periodic testing by imposing a permit condition pursuant to 480–03–19.773.17 requiring a quarterly analysis of appropriate coal mine waste as it is placed in a refuse pile or in the area being backfilled. 480–03–19.773.17 does not, however, specifically require the imposition of such a permit condition. This important permit condition should be added to the Virginia program at 480–03–19.773.17.

In its discussion of the proposed amendment at 480-03-19.816/ 817.102(e)(2), Virginia stated that the proposed variance from the requirement to direct water around the refuse pile would only be granted if the area above the refuse pile is "small." The term "small" was explained to mean that there are no channeled flows and that during storm events, there is only sheet flow. Additionally, the DMLR would not grant the variance if the drainage area above the pile on any point exceeds 500 feet, measured along the slope. These important criteria should be added to the Virginia program as a definition.

Both the Federal regulations at 30 CFR 816/817.83(a)(2) and the Virginia rules at 480–03–19.816/817.83(a)(2) prohibit the flow of uncontrolled surface drainage over the outslope of a refuse pile. Virginia will not grant a variance to the diversion requirements contained in this same subdivision, unless the operator can demonstrate that drainage over the outslope of the refuse pile will be controlled.

Further, the Director finds that runoff above the refuse pile need not be diverted around the surface of the pile so long as that runoff is not channeled flow (either natural or constructed) but is restricted to sheet flow only. Virginia has assured OSM that it will inspect these areas above the refuse piles until