the design and construction of all diversions of perennial and intermittent streams and all stream restorations. The design certification must certify that the design meets the design requirements of this section and any design criteria set by the regulatory authority. The construction certification must certify that the stream-channel diversion or stream restoration meets all construction requirements of this section and is in accordance with the approved design.

(c) *Diversion of miscellaneous flows.* (1) Miscellaneous flows, which consist of all flows except for perennial and intermittent streams, may be diverted away from disturbed areas if required or approved by the regulatory authority. Miscellaneous flows shall include ground-water discharges and ephemeral streams.

(2) The design, location, construction, maintenance, and removal of diversions of miscellaneous flows shall meet all of the performance standards set forth in paragraph (a) of this section.

(3) The requirements of paragraph (a)(2)(ii) of this section shall be met when the temporary and permanent diversions for miscellaneous flows are designed so that the combination of channel, bank and flood-plain configuration is adequate to pass safely the peak runoff of a 2-year, 6-hour precipitation event for a temporary diversion and a 10-year, 6-hour precipitation event for a permanent diversion.

[48 FR 43993, Sept. 26, 1983, as amended at 73 FR 75884, Dec. 12, 2008]

§ 817.45 Hydrologic balance: Sediment control measures.

(a) Appropriate sediment control measures shall be designed, constructed, and maintained using the best technology currently available to:

(1) Prevent, to the extent possible, additional contributions of sediment to stream flow or to runoff outside the permit area,

(2) Meet the more stringent of applicable State or Federal effluent limitations,

(3) Minimize erosion to the extent possible.

(b) Sediment control measures include practices carried out within and adjacent to the disturbed area. The sedimentation storage capacity of practices in and downstream from the disturbed areas shall reflect the degree to which successful mining and reclamation techniques are applied to reduce erosion and control sediment. Sediment control measures consist of the utilization of proper mining and reclamation methods and sediment control practices, singly or in combination. Sediment control methods include but are not limited to—

(1) Disturbing the smallest practicable area at any one time during the mining operation through progressive backfilling, grading, and prompt revegetation as required in § 817.111(b);

(2) Stabilizing the backfilled material to promote a reduction of the rate and volume of runoff in accordance with the requirements of § 817.102;

(3) Retaining sediment within disturbed areas;

(4) Diverting runoff away from disturbed areas;

(5) Diverting runoff using protected channels or pipes through disturbed areas so as not to cause additional erosion;

(6) Using straw dikes, riprap, check dams, mulches, vegetative sediment filters, dugout ponds, and other measures that reduce overland flow velocity, reduce runoff volume, or trap sediment;

(7) Treating with chemicals; and

(8) Treating mine drainage in underground sumps.

[44 FR 15422, Mar. 13, 1979, as amended at 48 FR 44781, Sept. 30, 1983]

§ 817.46 Hydrologic balance: Siltation structures.

(a) For the purposes of this section only, *disturbed areas* shall not include those areas—

(1) In which the only surface mining activities include diversion ditches, siltation structures, or roads that are designed, constructed and maintained in accordance with this part; and

(2) For which the upstream area is not otherwise distributed by the operator.

(b) *General requirements.* (1) Additional contributions of suspended solids and sediment to streamflow or runoff outside the permit area shall be prevented to the extent possible using the best technology currently available.

(2) Siltation structures for an area shall be constructed before beginning any undergound mining activities in that area, and upon construction shall be certified by a qualified registered professional engineer, or in any State which authorizes land surveyors to prepare and certify plans in accordance with § 784.16(a) of this chapter a qualified registered professional land surveyor, to be constructed as designed and as approved in the reclamation plan.

(3) Any siltation structure which impounds water shall be designed, constructed and maintained in accordance with § 817.49 of this chapter.

(4) Siltation structures shall be maintained until removal is authorized by the regulatory authority and the disturbed area has been stabilized and revegetated. In no case shall the structure be removed sooner than 2 years after the last augmented seeding.

(5) When the siltation structure is removed, the land on which the siltation structure was located shall be regraded and revegetated in accordance with the reclamation plan and §§ 817.111 through 817.116 of this chapter. Sedimentation ponds approved by the regulatory authority for retention as permanent impoundments may be exempted from this requirement.

(6) Any point-source discharge of water from underground workings to surface waters which does not meet the effluent limitations of § 817.42 shall be passed through a siltation structure before leaving the permit area.

(c) *Sedimentation ponds.* (1) Sedimentation ponds, when used, shall—

(i) Be used individually or in series;

(ii) Be located as near as possible to the distrubed area and out of perennial streams unless approved by the regulatory authority; and

(iii) Be designed, constructed, and maintained to—

(A) Provide adequate sediment storage volume;

(B) Provide adequate detention time to allow the effluent from the ponds to meet State and Federal effluent limitations;

(C) Contain or treat the 10-year, 24-hour precipitation event (''design event'') unless a lesser design event is approved by the regulatory authority based on terrain, climate, other site-specific conditions and on a demonstration by the operator that the effluent limitations of § 817.42 will be met;

(D) Provide a nonclogging dewatering device adequate to maintain the detention time required under paragraph (c)(1)(iii)(B) of this section;

(E) Minimize, to the extent possible, short circuiting;

(F) Provide periodic sediment removal sufficient to maintain adequate volume for the design event;

(G) Ensure against excessive settlement;

(H) Be free of sod, large roots, frozen soil, and acid- or toxic-forming coal-processing waste; and

(I) Be compacted properly.

(2) *Spillways.* A sedimentation pond shall include either a combination of principal and emergency spillways or single spillway configured as specified in § 817.49(a)(9).

(d) *Other treatment facilities.* (1) Other treatment facilities shall be designed to treat the 10-year, 24-hour precipitation even unless a lesser design event is approved by the regulatory authority based on terrain, climate, other site-specific conditions and a demonstration by the operator that the effluent limitations of § 817.42 will met.

(2) Other treatment facilities shall be designed in accordance with the applicable requirements of paragraph (c) of this section.

(e) *Exemptions.* Exemptions to the requirements of this section may be granted if—

(1) The disturbed drainage area within the total disturbed area is small; and

(2) The operator demonstrates that siltation structures and alternate sediment control measures are not necessary for drainage from the disturbed drainage areas to meet the effluent

limitations under § 817.42 and the applicable State and Federal water quality standards for the receiving waters.

[48 FR 44051, Sept. 26, 1983, as amended at 53 FR 43607, Oct. 27, 1988; 59 FR 53030, Oct. 20, 1994; 73 FR 75884, Dec. 12, 2008]

EFFECTIVE DATE NOTE: At 51 FR 41962, Nov. 20, 1986, paragraph (b)(2) of § 817.46 was suspended, effective Dec. 22, 1986. At 73 FR 75884, Dec. 12, 2008, an amendment removed § 817.46(b)(2) and redesignated (b)(3) through (6) as (b)(2) through (5), but could not be incorporated because paragraph (b)(2) is suspended.

§ 817.47 Hydrologic balance: Discharge structures.

Discharge from sedimentation ponds, permanent and temporary impoundments, coal processing waste dams and embankments, and diversions shall be controlled, by energy dissipators, riprap channels, and other devices, where necessary, to reduce erosion, to prevent deepening or enlargement of stream channels, and to minimize disturbance of the hydrologic balance. Discharge structures shall be designed according to standard engineering design procedures.

§ 817.49 Impoundments.

(a) *General requirements.* The requirements of this paragraph apply to both temporary and permanent impoundments.

(1) Impoundments meeting the Class B or C criteria for dams in the U.S. Department of Agriculture, Soil Conservation Service Technical Release No. 60 (210-VI-TR60, Oct. 1985), ''Earth Dams and Reservoirs,'' shall comply with the, ''Minimum Emergency Spillway Hydrologic Criteria,'' table in TR–60 and the requirements of this section. The technical release is hereby incorporated by reference. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies may be obtained from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161, order No. PB 87–157509–AS. Copies can be inspected at the OSM Headquarters Office, Office of Surface Mining Reclamation and Enforcement, Administrative Record, 1951 Constitution Avenue, NW, Washington, DC or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.*

(2) An impoundment meeting the size or other criteria of § 77.216(a) of this title shall comply with the requirements of § 77.216 of this title and this section.

(3) *Design certification.* The design of impoundments shall be certified in accordance with § 784.16(a) of this chapter as designed to meet the requirements of this part using current, prudent, engineering practices and any design criteria established by the regulatory authority. The qualified, registered, professional engineer or qualified, registered, professional, land surveyor shall be experienced in the design and construction or impoundments.

(4) *Stability.* (i) An Impoundment meeting the SCS Class B or C criteria for dams in TR–60, or the size or other criteria of § 77.216(a) of this title shall have a minimum static safety factor of 1.5 for a normal pool with steady state seepage saturation conditions, and a seismic safety factor of at least 1.2.

(ii) Impoundments not included in paragraph (a)(4)(i) of this section, except for a coal mine waste impounding structure, shall have a minimum static safety factor of 1.3 for a normal pool with steady state seepage saturation conditions or meet the requirements of § 784.16(c)(3).

(5) *Freeboard.* Impoundments shall have adequate freeboard to resist overtopping by waves and by sudden increases in storage volume. Impoundments meeting the SCS Class B or C criteria for dams in TR-60 shall comply with the freeboard hydrograph criteria in the ''Minimum Emergency Spillway Hydrologic Criteria'' table in TR-60.

(6) *Foundation.* (i) Foundations and abutments for an impounding structure shall be stable during all phases of construction and operation and shall be designed based on adequate and accurate information on the foundation conditions. For an impoundment meeting the SCS Class B or C criteria for