

#### **405 KAR 16:060. General hydrologic requirements.**

RELATES TO: KRS 350.100, 350.410, 350.420, 350.421, 350.440, 350.465, 30 C.F.R. Parts 701.5, 730-733, 735, 816.41, 816.45, 816.47, 816.56, 816.57, 917, 30 U.S.C. 1253, 1255, 1265, 1307

STATUTORY AUTHORITY: KRS 350.028, 350.100, 350.420, 350.465, 30 C.F.R. Parts 701.5, 730-733, 735, 816.41, 816.45, 816.47, 816.56, 816.57, 917, 30 U.S.C. 1253, 1255, 1265, 1307

NECESSITY, FUNCTION, AND CONFORMITY: KRS 350.028(1) and (5), 350.151(1), and 350.465(2) authorize the cabinet to promulgate administrative regulations relating to surface and underground coal mining operations. This administrative regulation establishes the requirements for the protection of the hydrologic balance, protection of surface and groundwater quantity and quality, control of erosion and sediment, control of acid-forming and toxic-forming materials, protection of streams, and the replacement of water supplies. This administrative regulation differs from federal regulations as follows: Section 8(1) requires that replacement of water supplies be done "promptly". This requirement appears in 30 CFR 817.41(j) relating to underground mines, but does not appear in 30 CFR 816.41(h) relating to surface mines. It is included in this administrative regulation because KRS 350.421(2), which requires replacement of the water supply, makes no distinction between underground and surface mines. Section 8(2)(a) of this administrative regulation, regarding replacement of domestic water supplies, includes requirements for emergency, temporary, and permanent replacement that are not included in the federal counterpart at 30 CFR 816.41(h) but are included in the definition of "replacement of water supply" at 30 CFR 701.5. It includes specific time frames for replacement that are not included in the federal regulations but are suggested in the preamble (60 FR 16727, March 31, 1995) to the federal regulations and are needed for fair and consistent enforcement of the requirement to promptly replace domestic water supplies. Section 8(2)(e) of this administrative regulation, regarding payment of excess delivery costs, includes a base time period of twenty (20) years that is not included in the federal regulations, and also includes more flexible payment options than the federal regulations. This time period is discussed as an example in the preamble at 60 FR 16726, March 31, 1995 and is needed for fair and consistent enforcement of the requirement to pay excess delivery costs. Section 8(4)(b) of this administrative regulation, regarding coverage of water replacement by liability insurance rather than additional performance bond, is not included in the federal counterpart at 30 CFR 816.41(h). The federal bonding regulation at 30 CFR 800.14(c) provides that the permittee's financial responsibility for repairing material damage resulting from subsidence under 30 CFR 817.121(c), which includes damage to water supplies, may be satisfied by the liability insurance policy required under 30 CFR 800.60. This provision is included in this administrative regulation in order to provide the same option to surface mining permittees that 405 KAR 18:060, Section 12 provides to underground mining permittees. Section 8(4)(c) of this administrative regulation, regarding prompt release or return of additional bond posted for water replacement, is not included in the federal regulations. This administrative regulation is consistent with the purpose of the federal regulations because the bond cannot be released or returned until after the permittee has completed the water supply replacement that the bond is intended to guarantee.

##### Section 1. General Requirements.

- (1) All surface mining activities shall be planned and conducted to minimize disturbance of the hydrologic balance in both the permit area and adjacent areas, in order to:
  - (a) Prevent material damage to the hydrologic balance outside the permit area;
  - (b) Assure the protection or replacement of water rights; and

- (c) Support the approved postmining land uses in accordance with the terms and conditions of the approved permit and the performance standards of this administrative regulation.
- (2) Changes in water quality and quantity, in the depth to groundwater, and in the location of surface water drainage channels shall be minimized so that the approved postmining land use of the permit area is not adversely affected.
- (3) In no case shall federal and state water quality statutes, regulations, standards, or effluent limitations be violated.
- (4) Operations shall be conducted to minimize water pollution and, where necessary, treatment methods shall be used to control water pollution.
- (a) Each permittee shall emphasize mining and reclamation practices that prevent or minimize water pollution. Changes in flow of drainage shall be used in preference to the use of water treatment facilities.
- (b) Acceptable practices to control and minimize water pollution include:
1. Stabilizing disturbed areas through land shaping;
  2. Diverting run-off;
  3. Achieving quickly germinating and growing stands of temporary vegetation;
  4. Regulating channel velocity of water;
  5. Lining drainage channels with rock or vegetation;
  6. Mulching;
  7. Selectively placing and sealing acid-forming and toxic-forming materials;
  8. Selectively placing waste materials in backfill areas; and
  9. Implementing sediment control measures in Section 2 of this administrative regulation.

#### Section 2. Sediment Control Measures.

- (1) Appropriate sediment control measures shall be designed, constructed, and maintained using the best technology currently available to:
- (a) Prevent, to the extent possible, additional contributions of sediment to stream flow or to run off outside the permit area;
  - (b) Meet the requirements of 405 KAR 16:070, Section 1(1)(g); and
  - (c) Minimize erosion to the extent possible.
- (2) Sediment control measures include practices carried out within and adjacent to the disturbed area. The sediment storage capacity of measures 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:
- (a) Disturbing the smallest practicable area at any one (1) time during the mining operation through progressive backfilling, grading and prompt revegetation as required in 405 KAR 16:200, Section 1(2);
  - (b) Stabilizing the backfilled material to promote a reduction in the rate and volume of run-off, in accordance with the requirements of 405 KAR 16:190;
  - (c) Retaining sediment within disturbed areas;
  - (d) Diverting run-off away from disturbed areas;
  - (e) Diverting run-off using protected channels or pipes through disturbed areas so as not to cause additional erosion;
  - (f) Using straw dikes, riprap, check dams, mulches, vegetative sediment filters, dugout ponds, and other measures that reduce overland flow velocity, reduce run-off volume, or trap sediment; and
  - (g) Treating with chemicals; and
  - (h) Using sedimentation ponds as required in 405 KAR 16:070.

Section 3. 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.

Section 4. Acid-forming and Toxic-forming Materials. Acid drainage and toxic drainage shall be avoided by:

- (1) Identifying, burying, and treating, in accordance with 405 KAR 16:190, Section 3, materials which may adversely affect water quality, or be detrimental to vegetation or to public health and safety if not buried and treated;
- (2) Storage, burial or treatment practices consistent with other material handling and disposal provisions of this chapter; and
- (3) Burying or otherwise treating all acid-forming or toxic-forming spoil within thirty (30) days after it is first exposed on the mine site, or within a lesser period required by the cabinet. Temporary storage of the spoil may be approved by the cabinet upon a finding that burial or treatment within thirty (30) days is not feasible and will not result in any material risk of water pollution or other environmental damage. Storage shall be limited to the period until burial or treatment first becomes feasible. Acid-forming or toxic-forming spoil to be stored shall be placed on impermeable material and protected from erosion and contact with surface water.

Section 5. Groundwater Protection and Recharge Capacity. In order to protect the hydrologic balance, surface mining activities shall be conducted according to 405 KAR 8:030, Section 32(1) and (2) and the following:

- (1) Groundwater quality shall be protected by handling earth materials and run-off in a manner that minimizes acidic, toxic, or other harmful infiltration to groundwater systems and by managing excavations and other disturbances to prevent or control the discharge of pollutants into the groundwater; and
- (2) Groundwater quantity shall be protected by handling earth materials and run-off in a manner that will restore the approximate premining recharge capacity of the reclaimed area as a whole, excluding coal mine waste disposal areas and excess spoil fills, so as to allow the movement of water to the groundwater system.

Section 6. Surface Water Protection. In order to protect the hydrologic balance, surface mining activities shall be conducted according to 405 KAR 8:030, Section 32(1) and (2) and the following:

- (1) Surface water quality shall be protected by handling earth materials, groundwater discharges, and run-off in a manner that:
  - (a) Minimizes the formation of acidic or toxic drainage;
  - (b) Prevents, to the extent possible using the best technology currently available, additional contribution of suspended solids to stream flow outside the permit area; and
  - (c) Will not cause or contribute to a violation of any federal or state effluent limitations or water quality standards.
- (2) If drainage control, restabilization and revegetation of disturbed areas, diversion of run-off, mulching, or other reclamation and remedial practices are not adequate to meet the requirements of this section and 405 KAR 16:070, the operator shall use and maintain the necessary water-treatment facilities or water quality controls for as long as treatment is required under this chapter; and
- (3) Surface water quantity and flow rates shall be protected by handling earth materials and run-off in accordance with the steps outlined in the plan approved under 405 KAR 8:030, Section 32(1) and (2).

Section 7. Transfer of Wells. Before final release of bond, exploratory or monitoring wells shall be sealed in a safe and environmentally sound manner in accordance with 405 KAR 16:040. With the prior approval of the regulatory authority, wells may be transferred to another party for further use. At a minimum, the conditions of such transfer shall comply with state and local law and the permittee shall remain responsible for the proper management of the well until bond release in accordance with 405 KAR 16:040.

Section 8. Replacement of Water Supply.

(1)

(a) If the cabinet receives a citizen's complaint under 405 KAR 12:030 that the person's water supply has been adversely impacted by the activities of a permittee named in the complaint, the cabinet shall promptly notify the permittee of the complaint.

(b) The permittee or operator shall promptly replace the water supply of an owner of interest in real property who obtains all or part of his supply of water for domestic, agricultural, industrial, or other legitimate use from an underground or surface source, if the water supply has been adversely impacted by contamination, diminution, or interruption proximately resulting from the surface mining activities. Baseline geologic and hydrologic information required in 405 KAR 8:030, Sections 12 through 16, and other relevant information available to the cabinet, shall be used to determine the impact of mining activities upon the water supply.

(2) If replacement of a water supply is required under subsection (1) of this section the permittee shall:

(a) If the water supply to be replaced is a domestic supply, provide water supply on both a temporary and permanent basis in accordance with this paragraph;

1. Within forty-eight (48) hours after receiving notice from the cabinet that the water supply was adversely impacted by mining, provide drinking water on an emergency basis;

2. Within two (2) weeks after receiving notice from the cabinet that the water supply was adversely impacted by mining, provide a temporary water supply connected to the existing plumbing, if any, that provides water for all ordinary household purposes including drinking, cooking, bathing, sanitation, and laundry, and drinking water for poultry, livestock, and domestic animals, and water for noncommercial domestic agricultural and horticultural activities;

3. Within two (2) years after receiving notice from the cabinet that the water supply was adversely impacted by mining, provide a satisfactory permanent water supply;

(b) If the water supply to be replaced is other than a domestic supply, provide water supply on both a temporary and permanent basis on a schedule established by the cabinet on a case-by-case basis;

(c) Provide water supply equivalent to premining quantity and quality;

(d) Provide an equivalent water delivery system; and

(e) Pay operation and maintenance costs in excess of customary and reasonable delivery costs for the premining water supply for a period of twenty (20) years, or other period agreed to by the permittee and the owner of interest. Upon agreement by the permittee and the owner of interest, the obligation to pay the excess operation and maintenance costs may be satisfied by:

1. A one (1) time payment in an amount which covers the present worth of the increased annual operation and maintenance costs for a period of twenty (20) years, or other period agreed to by the permittee and the owner of interest;

2. A uniform series of payments whose present worth equals or exceeds the present worth of the increased annual operation and maintenance costs for a period of twenty (20) years, or other period agreed to by the permittee and the owner of interest; or

3. Other reasonable compensation arrangements which fairly compensate the owner for the future operation and maintenance costs for a period of twenty (20) years, or other period agreed to by the permittee and the owner of interest.

(3) If the affected water supply was not needed for the land use in existence at the time of loss, contamination, or diminution, and if the supply is not needed to achieve the postmining land use, replacement requirements may be satisfied by demonstrating that a suitable alternative water source is available and could feasibly be developed. If this approach is selected, written concurrence shall be obtained from the owner of interest.

(4)

(a) If contamination, diminution, or interruption to a water supply protected under subsection (1) of this section occurs, the cabinet shall require the permittee to obtain additional performance bond in the amount of the estimated cost to replace the protected water supply, until the replacement is completed. If replacement is completed within ninety (90) days of the occurrence, additional bond shall not be required. The cabinet may extend the ninety (90) day time frame, but not to exceed one (1) year, if the permittee demonstrates and the cabinet finds in writing that not all reasonably anticipated changes affecting the protected water supply have occurred, and that therefore it would be unreasonable to complete the replacement within ninety (90) days.

(b) If the permittee demonstrates that his liability insurance policy under 405 KAR 10:030, Section 4 covers the replacement, the additional bond amount required under paragraph (a) of this subsection may be reduced by the amount of the insurance coverage applicable to the replacement. The existence of applicable insurance coverage shall not prevent forfeiture of a performance bond under 405 KAR 10:050.

(c) The cabinet may promptly release or return the additional bond amount provided under paragraph (a) of this subsection if the cabinet determines, based upon an application and information submitted by the permittee, the cabinet's own investigation as appropriate, and other information available to the cabinet, that the permittee has satisfactorily completed the required replacement.

#### Section 9. Discharges Into an Underground Mine.

(1) Discharges into an underground mine are prohibited, unless specifically approved by the cabinet after a demonstration that the discharge will:

(a) Minimize disturbance to the hydrologic balance on the permit area, prevent material damage outside the permit area and otherwise eliminate public hazards resulting from surface mining activities;

(b) Not result in a violation of applicable water quality standards or effluent limitations;

(c) Be at a known rate and quality which shall meet the effluent limitations of 405 KAR 16:070 for pH and total suspended solids, except that the pH and total suspended-solids limitations may be exceeded, if approved by the cabinet; and

(d) Meet with the approval of the Mine Safety and Health Administration.

(2) Discharges shall be limited to the following:

(a) Coal processing waste;

(b) Fly ash from a coal-fired facility;

(c) Sludge from an acid mine drainage treatment facility;

(d) Flue gas desulfurization sludge;

(e) Inert materials used for stabilizing underground mines;

(f) Underground mine development wastes; and

(g) Water.

#### Section 10. Postmining Rehabilitation of Sedimentation Ponds, Diversions, Impoundments, and Treatment Facilities. Before abandoning the permit area, the permittee shall renovate all

permanent sedimentation ponds, diversions, impoundments, and treatment facilities as necessary to meet criteria specified in the detailed design plan for the permanent structures and impoundments.

#### Section 11. Stream Buffer Zones.

(1) No land within 100 feet of an intermittent or perennial stream shall be disturbed by surface mining activities unless the cabinet specifically authorizes surface mining activities closer to, or through, such a stream. The cabinet may authorize such activities only upon finding, as a result of evaluating a permit application, that:

(a) Surface mining activities will not cause or contribute to the violation of applicable state or federal water quality standards;

(b) Surface mining activities will not cause significant detrimental effects on the water quantity or quality of the intermittent or perennial stream; provided however, this paragraph shall not apply to any reach of that stream that is upstream of an impounding structure located within the permit area and within the stream channel;

(c) Surface mining activities will not cause significant detrimental effects on other valuable environmental resources, as determined by the cabinet, of the stream; and

(d) If there will be a temporary or permanent stream-channel diversion, it will comply with 405 KAR 16:080.

(2) The area that is not to be disturbed shall be designated a buffer zone, shall be adequately shown in the permit application, and shall be marked by the permittee as specified in 405 KAR 16:030.

(3) Descriptions, drawings, data, and all other information required by the cabinet to make the findings of subsection (1) of this section shall be submitted in a permit application in a manner prescribed by the cabinet.

(4)

(a) The provisions of the amendments to this section shall apply to all surface mining activities, except as provided in paragraph (b) of this subsection.

(b)

1. Surface mining activities included in a permit issued on or before August 17, 1987 shall be subject to the provisions that preceded the amendments to this section in lieu of the provisions of subsections (1) through (3) of this section.

2. Surface mining activities included in a permit application determined to be complete pursuant to 405 KAR 8:010, Section 13(1) on or before August 17, 1987 shall be subject to the provisions that preceded the amendments to this section in lieu of the provisions of subsections (1) through (3) of this section.

#### Section 12. Discharges of Accumulated Water.

(1) Any accumulated water to be removed from a pit, bench, or other disturbed area shall be pumped, siphoned, or otherwise conveyed in a controlled manner to a natural or constructed drainway as approved by the cabinet.

(2) Such accumulated water may be discharged from the permit area without treatment only if the untreated discharge meets the requirements of 405 KAR 16:070, Section 1(1) (g).

(3) The moving of spoil or overburden or the disturbance of the natural barrier required by 405 KAR 16:010, Section 4, in order to release such accumulated water is prohibited, except when specifically authorized by the cabinet.

(8 Ky.R. 1531; 9 Ky.R. 698; eff. 1-6-1983; 10 Ky.R. 813; eff. 4-23-1984; 12 Ky.R. 933; 1316; eff. 2-4-1986; 13 Ky.R. 1883; eff. 7-2-1987; 24 Ky.R. 710; 1341; 25 Ky.R. 63; eff. 7-7-1998; Crt eff. 7-3-2018.)