**Section 1816.41 Hydrologic Balance Protection**

a) General. All surface mining and reclamation activities shall be conducted to minimize disturbance of the hydrologic balance within the permit and adjacent areas, to prevent material damage to the hydrologic balance outside the permit area, such as diminution of recharge capacity, to prevent violations of State and Federal water quality standards and effluent limitations, to assure the protection or replacement of water rights, and to support approved post-mining land uses in accordance with the terms and conditions of the approved permit and the performance standards of this Part. The Department shall require additional preventative, remedial, or monitoring measures to assure that material damage to the hydrologic balance outside the permit area is prevented if the current approved plan is not sufficient to achieve this protection. Mining and reclamation practices that minimize water pollution and changes in flow shall be used in preference to water treatment.

b) Ground water protection. In order to protect the hydrologic balance, surface mining activities shall be conducted according to the plan approved under 62 Ill. Adm. Code 1780.21(h) and the following:

1) Ground water quality shall be protected by handling earth materials and runoff in a manner that minimizes acidic, toxic, or other harmful infiltration to ground water systems and by managing excavations and other disturbances to prevent or control the discharge of pollutants into the ground water.

2) Ground water quantity shall be protected by handling earth materials and runoff 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 fills, so as to allow the movement of water to the ground water system.

c) Ground water monitoring.

1) Ground water monitoring shall be conducted according to the ground water monitoring plan approved under 62 Ill. Adm. Code 1780.21(i). If unanticipated conditions develop, or if an approved operation or reclamation plan is modified or revised such that the current monitoring program would not detect possible adverse impacts to the hydrologic balance as a result of this change, then the Department shall require additional monitoring including, but not limited, to increased monitoring frequency, additional monitoring wells or changes in the number of parameters being monitored, when it is determined that the proposed, or approved, monitoring plan is not adequate to detect adverse impacts to the hydrologic balance.

2) Ground water monitoring data shall be submitted every 3 months to the Department or more frequently as prescribed by the Department. Ground water monitoring reports shall be submitted by the first day of the second month following the reporting period, unless the Department specifies an alternative reporting schedule. Monitoring reports shall include analytical results from each sample taken during the reporting period. When the analysis of any ground water sample indicates noncompliance with the permit conditions, then the operator shall promptly notify the Department and immediately take the actions provided for in 62 Ill. Adm. Code 1773.17(e) and 1780.21(h).

3) Ground water monitoring shall proceed through mining and continue during reclamation until bond release. Consistent with the procedures of 62 Ill. Adm. Code 1774.13, the Department may modify the monitoring requirements when such changes to the approved plan do not diminish the ability to detect adverse impacts to the hydrologic balance, including the parameters covered and the sampling frequencies, if the operator demonstrates, using the monitoring data obtained under this subsection that:

A) The operation has minimized disturbance to the hydrologic balance in the permit and adjacent areas and prevented material damage to the hydrologic balance outside the permit area; water quality and quantity are suitable to support approved post-mining land uses; and the water rights of other users have been protected or replaced; or

B) Monitoring is no longer necessary to achieve the purposes set forth in the monitoring plan approved under 62 Ill. Adm. Code 1780.21.

4) Equipment, structures, and other devices used in conjunction with monitoring the quality and quantity of ground water onsite and offsite shall be properly installed, maintained, and operated and shall be removed by the operator when no longer needed, except as provided for under subsection (g).

d) Surface water protection. In order to protect the hydrologic balance, surface mining activities shall be conducted according to the plan approved under 62 Ill. Adm. Code 1780.21(h) and the following:

1) Surface water quality shall be protected by handling earth materials, ground water discharges, and runoff in a manner that minimizes the formation of acidic or toxic drainage; prevents, to the extent possible using the best technology currently available, additional contributions of suspended solids to streamflow outside the permit area; and otherwise prevents water pollution. If drainage control, restabilization and revegetation of disturbed areas, diversion of runoff, mulching, or other reclamation and remedial practices are not adequate to meet the requirements of this Section and Section 1816.42, the operator shall use and maintain the necessary water treatment facilities or water quality controls.

2) Surface water quantity and flow rates shall be protected by handling earth materials and runoff in accordance with the steps outlined in the plan approved under 62 Ill. Adm. Code 1780.21(h).

e) Surface water monitoring.

1) Surface water monitoring shall be conducted according to the surface water monitoring plan approved under 62 Ill. Adm. Code 1780.21(j). If unanticipated conditions develop, or if an approved operation or reclamation plan is modified or revised such that the current monitoring program would not detect possible adverse impacts to the hydrologic balance as a result of this change, then the Department shall require additional monitoring including, but not limited to, changes in the number of parameters or frequency of sample collection, when it is determined that the approved plan is not designed to detect adverse impacts to the hydrologic balance.

2) Surface water monitoring data shall be submitted to the Department every 3 months, or more frequently as prescribed by the Department in those circumstances where a more frequent monitoring schedule is necessary to detect adverse impacts to the surface water system. This shall include, but not necessarily be limited to, copies of reports submitted for the National Pollutant Discharge Elimination System (NPDES) sent to the Illinois Environmental Protection Agency (EPA). Copies of NPDES reports shall be sent to the Department by the first day of the second month following the reporting period. Monitoring reports shall include analytical results from each sample taken during the reporting period. When the analytical results of any surface water sample indicates noncompliance with the permit conditions, the operator shall notify the Department within 5 days and immediately take the actions provided for in 62 Ill. Adm. Code 1773.17(e) and 1780.21(h). The reporting requirements of this paragraph do not exempt the operator from meeting any NPDES reporting requirements.

3) Surface water monitoring shall proceed through mining and continue until bond release. Consistent with 62 Ill. Adm. Code 1774.13, the Department may modify the monitoring requirements, except those required by the Illinois EPA, when such changes to the approved plan do not diminish the ability to detect adverse impacts to the hydrologic balance, including the parameters covered and sampling frequency if the operator demonstrates using the monitoring data that:

A) The operation has minimized disturbance to the hydrologic balance in the permit and adjacent areas and prevented material damage to the hydrologic balance outside the permit area; water quantity and quality are suitable to support approved post-mining land uses; and the water rights of other users have been protected or replaced; or

B) Monitoring is no longer necessary to achieve the purposes set forth in the monitoring plan approved under 62 Ill. Adm. Code 1780.21(j).

4) Equipment, structures, and other devices used in conjunction with monitoring the quality and quantity of surface water onsite and offsite shall be properly installed, maintained, and operated and shall be removed by the operator when no longer needed, except as provided for in Section 1816.49(b).

f) Acid- and toxic-forming materials.

1) Drainage from acid- and toxic-forming materials into surface water and ground water shall be avoided by:

A) Identifying and burying and/or treating, when necessary, materials which may adversely affect water quality, or be detrimental to vegetation or to public health and safety if not buried and/or treated, and

B) Storing materials in a manner that will protect surface water and ground water by preventing erosion, the formation of polluted runoff, and the infiltration of polluted water. Storage shall be limited to the period until burial and/or treatment first become feasible, and so long as storage will not result in any risk of water pollution or other environmental damage.

2) Storage, burial or treatment practices shall be consistent with other material handling and disposal provisions of Section 1816.102.

g) Before final release of bond, exploratory or monitoring wells shall be sealed in a safe and environmentally sound manner in accordance with Sections 1816.13 through 1816.15. With prior approval of the Department, 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 Sections 1816.13 through 1816.15.

h) Any person who conducts surface mining activities shall replace the water supply of an owner of interest in real property who obtains all or part of his or her supply of water for domestic, agricultural, industrial, or other legitimate use from an underground or surface source, where the water supply has been adversely impacted by contamination, diminution, or interruption proximately resulting from the surface mining activities. Information used to determine the extent of the impact of mining upon ground water and surface water shall include, but not be limited to, baseline hydrologic information required in 62 Ill. Adm. Code 1780.21 and 1780.22.

i) Discharges into an underground mine.

1) Discharges into an underground mine are prohibited, unless specifically approved by the Department 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 water quality standards or effluent limitations set forth in Section 1816.42;

C) Be at a known rate and quality which shall meet the effluent limitations of Section 1816.42 for pH and total suspended solids, except that the Department may allow pH and total suspended solids to exceed effluent limits so long they will not result in any adverse impacts to the hydrologic balance, and

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

2) Discharges shall be limited to the following:

A) Water;

B) Coal processing waste;

C) Fly ash from a coal-fired facility;

D) Sludge from an acid-mine drainage treatment facility;

E) Flue-gas desulfurization sludge;

F) Inert materials used for stabilizing underground mines; and

G) Underground mine development wastes.

(Source: Amended at 26 Ill. Reg. 4232, effective March 6, 2002)