ILLINOIS
DEPARTMENT OF
NATURAL RESOURCES
Office of Mines and Minerals
524 South Second Street, Springfield 62701-1787 Jim Edgar, Governor ● Brent Manning, Director

LAND RECLAMATION DIVISION
MEMORANDUM NO. 96-5

TO: Recipients of the Permanent Program Regulations

FROM: Donald J. Pflederer, Supervisor
Land Reclamation Division

DATE: August 1, 1996

RE: Regulatory Amendments - Correction

We have recently found a collating error in the copy of the regulations codified at 62 Ill. Adm. Code 1700 - 1850 which was sent to you on July 1, 1996. Sections 1784.13 and 1784.14 were inadvertently omitted and Sections 1783.13 and 1783.14 inserted in their place. Please remove Sections 1783.13 and 1783.14 (found following Section 1784.12), and insert the enclosed Sections 1784.13 and 1784.14.

We apologize for any confusion which may have resulted from this error. If you have any questions concerning this matter, please feel free to contact the Land Reclamation Division.

Effective July 1, 1995, the Illinois Department of Natural Resources was created through the consolidation of the Illinois Department of Conservation, Department of Mines and Minerals, Abandoned Mined Lands Reclamation Council, the Department of Transportation's Division of Water Resources, and the Illinois State Museum and Scientific Surveys from the Illinois Department of Energy and Natural Resources.

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Section 1784.13 Reclamation Plan: General Requirements

a) Each application shall contain a plan for the reclamation of the lands within the proposed permit area, showing how the applicant will comply with Sections 3.01 through 4.11 of the State Act, 62 Ill. Adm. Code 1810 through 1828, and the environmental protection performance standards of the regulatory program. The plan shall include, at a minimum, all information required under Sections 1784.13 through 1784.26 provided that the Department considers Section 516(d) of the Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1266(d)) (Federal Act), and thereby acknowledges that long-term reclamation activities cannot be planned in the same detail as reclamation activities which will take place in the near future.

b) Each plan shall contain the following information for the proposed permit area:

1) A detailed timetable for the completion of each major step in the reclamation plan;

2) A detailed estimate of the cost of the reclamation of the proposed operations required to be covered by a performance bond under 62 Ill. Adm. Code 1800 with supporting calculations for the estimates;

3) A plan for backfilling, soil stabilization, compacting, and grading with contour maps or cross-sections that show the anticipated final surface configuration of the proposed permit area, in accordance with 62 Ill. Adm. Code 1817.102 through 1817.107;

4) A plan for removal, storage, and redistribution of topsoil, subsoil, and other material to meet the requirements of 62 Ill. Adm. Code 1817.22. A demonstration of the suitability of topsoil substitutes or supplements under 62 Ill. Adm. Code 1817.22(b) shall be based upon analysis of the thickness of soil horizons, total depth, texture, percent of coarse fragments, pH, and areal extent of the different kinds of soils;

5) A plan for revegetation as required in 62 Ill. Adm. Code 1817.111 through 1817.117, including, but not limited to, descriptions of the:

A) Schedule of revegetation;

B) Species and amounts per acre of seeds and seedlings to be used;

C) Methods to be used in planting and seeding;

D) Mulching techniques;

E) Irrigation, if appropriate, and pest and disease control measures, if any;

F) Measures proposed to be used to determine the success of revegetation as required in 62 Ill. Adm. Code 1817.116; and

G) A soil testing plan for evaluation of the results of topsoil handling and reclamation procedures related to revegetation;

6) A description of the measures to be used to maximize the use and conservation of the coal resource as required in 62 Ill. Adm. Code 1817.59;

7) A description of measures to be employed to ensure that all debris, acid-forming and toxic-forming materials, and materials constituting a fire hazard are disposed of in accordance with 62 Ill. Adm. Code 1817.89 and 1817.102 and a description of the contingency plans which have been developed to preclude sustained combustion of such materials;

8) A description, including appropriate cross-sections and maps, of the measures to be used to seal or manage mine openings, and to plug, case or manage exploration holes, other bore holes, wells and other openings within the proposed permit area, in accordance with 62 Ill. Adm. Code 1817.13 through 1817.15; and

9) A description of steps to be taken to comply with the requirements of the Clean Air Act (42 U.S.C. 7401 et seq.), the Clean Water Act (33 U.S.C. 1251 et seq.), and other applicable air and water quality laws and regulations and health and safety standards.

(Source: Amended at 11 Ill. Reg. 8652, effective July 1, 1987)

Section 1784.14 Hydrologic Information

a) All water quality analyses performed to meet the requirements of this Section shall be conducted according to the methodology in the 15th edition of "Standard Methods for the Examination of Water and Wastewater," (1980) which is incorporated by reference, or the methodology in 40 CFR 136 and 434. Water quality sampling performed to meet the requirements of this Section shall be conducted according to either methodology listed above when feasible. "Standard Methods for the Examination of Water and Wastewater" (1980) is a joint publication of the American Public Health Association, the American Water Works Association and the Water Pollution Control Federation and is available from the American Public Health Association, 1015 15th Street, NW., Washington D.C. 20036. This document is also available for inspection at the Land Reclamation Division, Department of Mines and Minerals, 300 West Jefferson Street, Suite 300, P.O. Box 10197, Springfield, Illinois 62791-0197.

b) The application shall contain the following baseline hydrologic information. When this information is insufficient for the Department to determine if adverse impacts may result to the hydrologic balance, additional information shall be required, such as but not limited to water supply contamination or diminution.

1) Ground water information. The location and ownership for the permit and adjacent area of existing wells, springs, and other ground water resources, seasonal quality and quantity of ground water, and usage.

A) Ground water quality descriptions shall include, at a minimum, pH, total dissolved solids, hardness, alkalinity, acidity, sulfates, total iron, total manganese and chlorides. The Department shall allow the measurement of specific conductance in lieu of total dissolved solids if the permittee develops site-specific relationships precisely correlating specific conductance to total dissolved solids for specific sites for all zones being monitored.

B) Ground water quantity descriptions shall include, at a minimum, rates of discharge or usage and elevation of the potentiometric surface in the coal to be mined, in each water-bearing stratum above the coal to be mined, and in each water-bearing stratum which may be potentially impacted below the coal to be mined.

2) Surface water information. The name, location, ownership, and description of all surface water bodies, such as streams, lakes, and impoundments, the location of any discharge into any surface water body in the proposed permit and adjacent areas, and information on surface

water quality and quantity sufficient to demonstrate seasonal variation and water usage.

A) Water quality descriptions shall include, at a minimum, baseline information on pH, total suspended solids, total dissolved solids, alkalinity, acidity, sulfates, total iron, total manganese and chlorides. The Department shall allow the measurement of specific conductance in lieu of total dissolved solids if the permittee develops site-specific relationships precisely correlating specific conductance to total dissolved solids for specific sites for all surface water points being monitored.

B) Water quantity descriptions shall include, at a minimum, baseline information on seasonal flow rates.

3) If the determination of probable hydrologic consequences required by subsection (e) indicates that adverse impacts on or off the proposed permit area may occur to the hydrologic balance, or that acid-forming or toxic-forming material is present that may result in the contamination of ground or surface water supplies, then information supplemental to that required under subsections (1) and (2) above shall be provided to evaluate such probable hydrologic consequences and to plan remedial and reclamation activities. Such supplemental information shall be based upon drilling, hydrogeologic analyses of water-bearing strata, flood flows, or analysis of other water quality or quantity characteristics.

c) Baseline cumulative impact area information.

1) Hydrologic and geologic information for the cumulative impact area necessary to assess the probable cumulative hydrologic impacts of the proposed operation and all anticipated mining on surface and ground water systems as required by subsection (f) below shall be provided to the Department, if available from appropriate Federal or State agencies.

2) If the information is not available from such agencies, then the applicant may gather and submit this information to the Department as part of the permit application.

3) The permit shall not be approved until the necessary hydrologic and geologic information is available to the Department.

d) The use of modeling techniques, interpolation or statistical techniques may be included as part of the permit application if such techniques will enhance the

evaluation of hydrological impacts, but actual surface and ground water information may be required by the Department for the purposes of calibration of such models for each site even when such techniques are used.

e) Determination of the probable hydrologic consequences (PHC).

1) The application shall contain a determination of the probable hydrologic consequences of the proposed operation on the proposed permit area, shadow area and adjacent area, with respect to the hydrologic regime and the quantity and quality of water in surface and ground water systems under all seasonal conditions, including the contents of dissolved and total suspended solids, total iron, pH, total manganese, and other parameters required by the Department if such parameters are necessary to assure an accurate determination of probable hydrologic consequences on a site-specific basis.

2) The PHC determination shall be based on baseline hydrologic, geologic and other information collected for the permit application and may include data statistically representative of the site.

3) The PHC determination shall include findings on:

A) Whether adverse impacts may occur to the hydrologic balance;

B) Whether acid-forming or toxic-forming materials are present that could result in the contamination of surface-or ground-water supplies; and

C) What impact the proposed operation will have on:

i) sediment yield from the disturbed areas;

ii) acidity, total suspended and dissolved solids, and other important water quality parameters of local impact;

iii) flooding or stream-flow alteration;

iv) ground-water and surface-water availability; and

v) other characteristics as required by the Department, based upon public comment, Interagency Committee comment and the Department's technical review.

4) An application for a permit revision shall be reviewed by the Department to determine whether a new or updated PHC determination shall be required.

f) Cumulative hydrologic impact assessment.

1) The Department shall provide an assessment of the probable cumulative hydrologic impacts of the proposed operation and all anticipated mining upon surface and ground water systems in the cumulative impact area. This assessment shall be sufficient for purposes of permit approval, to determine whether the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area. The Department shall allow the submittal of data and analyses by the permittee in accordance with subsection (c) above.

2) An application for a permit revision shall be reviewed by the Department to determine whether a new or updated assessment shall be required.

g) The application shall include a plan with maps and descriptions, indicating how the relevant requirements of 62 Ill. Adm. Code 1817, including 62 Ill. Adm. Code 1817.41 through 1817.43, will be met. The plan shall be specific to local hydrologic conditions. It shall contain steps to be taken during mining and reclamation, through bond release, to minimize disturbances to the hydrologic balance within the permit, shadow, and adjacent areas; to prevent material damage outside the permit area; to meet the applicable Federal and State water quality laws and regulations. The plan shall include the measures to be taken to avoid acid or toxic drainage; prevent, to the extent possible using the best technology currently available, additional contributions of suspended solids to streamflow; provide water treatment facilities when needed; control drainage; restore approximate premining recharge capacity. The plan shall specifically address any potential adverse hydrologic consequences identified in subsection (e) above and shall include preventative and remedial measures.

h) Ground water monitoring plan.

1) The application shall include a ground water monitoring plan based upon the determination of probable hydrologic consequences required under subsection (e) above and the analyses of all baseline hydrologic, geologic and other information in the permit application. The plan shall provide for the monitoring of parameters that relate to the suitability of the ground water for current and approved post-mining land uses and to the objectives for protection of the hydrologic balance set forth in subsection (g) above. It shall identify the quantity and quality parameters to be

monitored, sampling frequency and site locations. It shall describe how the data may be used to determine the impacts of the operation on the hydrologic balance. At a minimum, the parameters to be monitored shall include pH, total dissolved solids, hardness, alkalinity, acidity, sulfates, total iron, total manganese and water levels. The Department shall allow the measurement of specific conductance in lieu of total dissolved solids if the permittee develops site-specific relationships precisely correlating specific conductance to total dissolved solids for specific sites for all zones being monitored. Data shall be submitted to the Department every three months for each monitoring location. The Department may require additional monitoring, such as increased parameters or frequency, if it is determined that the existing or proposed monitoring program is not designed to detect adverse impacts to the hydrologic balance.

2) If an applicant can demonstrate by the use of the probable hydrologic consequences determination and other available information that a particular water-bearing stratum in the proposed permit and adjacent areas is not one which serves as an aquifer which significantly ensures the hydrologic balance within the cumulative impact area, then monitoring of that stratum may be waived by the Department.

i) Surface water monitoring plan.

1) The application shall include a surface water monitoring plan based upon the determination of probable hydrologic consequences required in subsection (e) above and the analysis of all baseline hydrologic, geologic and other information in the permit application. The plan shall provide for monitoring of parameters that relate to the suitability of the surface water for current and approved post-mining land uses, to the objectives for protection of the hydrologic balance as set forth in subsection (g) above, and to the effluent limitations in 40 CFR 434.

2) The plan shall identify the surface water quantity and quality parameters to be monitored, sampling frequency and site locations. It shall describe how the data may be used to determine the impacts of the operation upon the hydrologic balance.

A) At all monitoring locations in the surface water bodies such as streams, lakes and impoundments, that are potentially impacted or into which water will be discharged and at upstream monitoring locations, pH, total dissolved solids, total suspended solids, alkalinity, acidity, sulfates, total iron, total manganese and flow shall be monitored. The Department shall allow the measurement

of specific conductance in lieu of total dissolved solids if the permittee develops site-specific relationships precisely correlating specific conductance to total dissolved solids for specific sites for all locations being monitored.

B) For point-source discharges, monitoring shall be conducted in accordance with 40 CFR 122, 123 and 434 and as required by the Illinois Environmental Protection Agency (IEPA).

3) All surface water monitoring reports, including those required by the IEPA, shall be submitted to the Department every three (3) months. The Department shall require additional monitoring if it is determined that the existing or proposed monitoring plan is not adequate to detect adverse impacts to the hydrologic balance.

(Source: Amended at 17 Ill. Reg. 11031, effective July 1, 1993)