Attachment N

2004-05-03

Kansas Department of Health and Environment
Proposed New Regulation

Article 16. Water Pollution Control

Municipal, Commercial and Industrial Wastewater
Lagoon Requirements

28-16-160. Definitions. The following terms and abbreviations shall be applicable to K.A.R. 28-16-160 through K.A.R. 28-16-174 and shall have the meanings specified in this regulation. Terms and abbreviations not defined in this regulation shall have the meanings specified in K.S.A. 65-101 et seq. and amendments thereto; articles 5, 13, 16, and 30; or the clean water act (CWA). For K.A.R. 28-16-160 through 28-16-174, the definitions prescribed in this regulation shall control over any different definitions in any of the following: articles 5, 13, 16, and 30; federal regulations adopted by reference in articles 5, 13, 16, and 30; or the clean water act (CWA).

(a) "Change in operation" and "modification" mean any of the following:

(1) Any expansion or enlargement of a wastewater treatment system beyond the scope or boundaries established by a permit or KDHE-approved plans and specifications;

(2) any change or increase in production or wastewater-generating activities resulting in a change in the quantity or quality of the sewage or wastewater being generated; or

(3) any modification to the wastewater treatment system or an increase in the wastewater treatment system capacity beyond that addressed by the permit application, authorized by a permit, or authorized by KDHE-approved plans and specifications. As used in these regulations,

ATTORNEY GENERAL
MAY 5 2004
APPROVED BY MF

DEPT. OF ADMINISTRATION
MAY 0 4 2004
APPROVED BY FDL

a "modification" to a wastewater treatment system shall exclude routine cleaning, normal maintenance, and routine minor bank erosion repairs.

(b) "Commercial wastewater treatment system" means a wastewater treatment system serving a commercial enterprise or group of commercial enterprises for the purpose of treating primarily domestic sewage by physical, chemical, or biological means or by a combination of those methods.

(c) "CWA" and "federal clean water act" mean the federal water pollution control act, 33 U.S.C. 1251 et seq., as in effect on November 27, 2002.

(d) "Department" and "KDHE" have the meaning specified in K.A.R. 28-16-58.

(e) "Director" has the meaning specified in K.A.R. 28-16-58.

(f) "Division" has the meaning specified in K.A.R. 28-16-58.

(g) "Domestic sewage" has the meaning specified in K.A.R. 28-16-56c.

(h) "Environmental protection agency" and "EPA" have the meaning specified in K.A.R. 28-16-58.

(i) "Equus Beds," for the purpose of these municipal, commercial, and industrial wastewater lagoon regulations, means the aquifer underlying the sections of land listed in the following table:

County	Range	Township	Section
Harvey	01W	22S	06, 07, 18, 19, 30, 31

ATTORNEY GENERAL
MAY 5 2004
MF
DEPT. OF ADMINISTRATION
APR 16 2004
APPROVED BY FDL

Harvey	01W	23S	06, 07, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34
Harvey	01W	24S	03, 04, 05, 06, 07, 08, 09, 10, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34
Harvey	02W	22S	All sections
Harvey	02W	23S	All sections
Harvey	02W	24S	All sections
Harvey	03W	22S	All sections
Harvey	03W	23S	All sections
Harvey	03W	24S	All sections
McPherson	01W	19S	31, 32, 33, 34, 35
McPherson	01W	20S	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33
McPherson	01W	21S	05, 06, 07, 18, 19, 30, 31
McPherson	02W	21S	12, 13, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
McPherson	03W	18S	28, 29, 30, 31, 32, 33
McPherson	03W	19S	04, 05, 06, 07, 08, 09, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34
McPherson	03W	20S	03, 04, 05, 06, 07, 08, 09, 10, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34, 35

ATTORNEY GENERAL

MAY 5 2004

DEPT. OF ADMINISTRATION

APR 14 2004

APPROVED BY FDL

McPherson	03W	21S	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
McPherson	04W	18S	20, 21, 25, 26, 27, 28, 29, 32, 33, 34, 35, 36
McPherson	04W	19S	01, 02, 03, 04, 09, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 34, 35, 36
McPherson	04W	20S	01, 02, 03, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, 36
McPherson	04W	21S	01,02, 03, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 34, 35, 36
Reno	04W	22S	All sections
Reno	04W	23S	All sections
Reno	04W	24S	All sections
Reno	04W	25S	All sections
Reno	04W	26S	All sections
Reno	05W	22S	All sections
Reno	05W	23S	All sections
Reno	05W	24S	All sections
Reno	05W	25S	All sections
Reno	05W	26S	All sections
Reno	06W	22S	All sections
Reno	06W	23S	All sections
Reno	06W	24S	All sections

ATTORNEY GENERAL
MAY 5 2004
DEPT. OF ADMINISTRATION
APR 14 2004
APPROVED BY FDL

Reno	06W	25S	All sections
Reno	06W	26S	All sections
Reno	07W	22S	All sections
Reno	07W	23S	All sections
Reno	07W	24S	All sections
Reno	07W	25S	All sections
Reno	07W	26S	All sections
Sedgwick	01E	26S	06, 07, 08, 17, 18, 19, 20
Sedgwick	01W	25S	03, 04, 05, 06, 07, 08, 09, 10, 15, 16, 17, 18, 19, 20, 21, 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
Sedgwick	01W	26S	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 28, 29, 30, 31, 32
Sedgwick	01W	27S	05, 06
Sedgwick	02W	25S	All sections
Sedgwick	02W	26S	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 34, 35, 36
Sedgwick	02W	27S	01
Sedgwick	03W	25S	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 33, 34, 35, 36
Sedgwick	03W	26S	01, 02, 03, 04, 11, 12

ATTORNEY GENERAL
MAY 5 2004
DEPT. OF ADMINISTRATION
APR 14 2004

(j) "Groundwater," for the purpose of these municipal, commercial, and industrial wastewater lagoon liner regulations, means water located under the surface of the land that is or can be the source of supply for wells, springs, seeps, or streams or that is held in aquifers. For the lagoon regulations, this term shall be considered capable of being a source of supply for wells if at least one of the following conditions is met:

(1) The groundwater can be produced at a rate of 10 gallons or more per hour from a borehole with a diameter of nine or fewer inches. In determining the groundwater production rate for an excavation, borehole, or existing water or monitoring well, the quantity of produced water shall be adjusted for comparison purposes to the surface area of a borehole with a diameter of nine inches.

(2) Groundwater is currently being used within ½ mile of the proposed lagoon, regardless of the rate at which the groundwater can be produced.

(3) There is evidence of past groundwater use within ½ mile of the proposed lagoon.

(k) "Groundwater separation distance," for the purpose of these municipal, commercial, and industrial wastewater lagoon regulations, means the distance measured between the bottom of the lagoon and the top of the groundwater table. The bottom of the lagoon shall be determined by the lowest interior surface elevation, at finished grade, of the lagoon structure. The top of the groundwater shall be determined by the upper surface elevation of groundwater in an aquifer or, if the watertable fluctuates seasonally, the maximum annual surface elevation of the groundwater based on the average of the previous 10 years of groundwater data, if available.

ATTORNEY GENERAL

APR 0 6 2005

APPROVED BY

DEPT. OF ADMINISTRATION

MAR 2 9 2005

APPROVED BY FDL

(l) "Impermeable synthetic membrane liner" means a commercially manufactured membrane liner composed of synthetic materials commonly identified as being plastic or plastic polymer materials or other synthetic materials that, when properly installed, would provide for the more stringent of either of the following:

(1) A maximum monitored or calculated seepage rate of 1/64 inch per day; or

(2) the liner manufacturer's criteria for the material and installation of the membrane liner expressed in units of volume per area per unit of time (gallons per square feet per day).

(m) "Industrial wastewater treatment system" means any of the following:

(1) A wastewater treatment system serving a city, county, township, sewer district, or other governmental unit;

(2) a state or federal agency, establishment, or institution;

(3) an industrial or commercial enterprise; or

(4) a group or combination of any of the entities specified in paragraphs (m)(1) through (3) treating primarily sewage or process-generated wastewater, other than domestic sewage, by physical, chemical, or biological methods or by a combination of these methods.

(n) "In existence," when used to describe a municipal, commercial, or industrial wastewater treatment system, means that the system meets one of the following conditions:

(1) Is constructed or installed, is capable of providing wastewater treatment, and is currently covered by a valid Kansas water pollution control permit on the effective date of these regulations;

ATTORNEY GENERAL
APR 06 2005
APPROVED BY

DEPT. OF ADMINISTRATION
MAR 24 2005
APPROVED BY FDL

(2) received the secretary's approval of construction plans and specifications before the effective date of these regulations and is under construction within two years after the date of approval; or

(3) is under construction, with plans and specifications approved by the secretary, on the effective date of these regulations.

(o) "Licensed geologist" means a geologist licensed to practice geology in Kansas by the Kansas board of technical professions.

(p) "Licensed professional engineer" means a professional engineer licensed to practice engineering in Kansas by the Kansas board of technical professions.

(q) "Liner" means any designed barrier in the form of in situ, layered, membrane, or blanket materials utilized or installed to reduce the potential for a significant hydrologic connection between sewage or process-generated wastewaters that are controlled or retained by wastewater treatment systems and waters of the state.

(r) "Maximum soil liner seepage rate" and "specific discharge" mean the flow rate through the soil liner, which is expressed as velocity (distance per unit of time). The maximum soil liner seepage rate shall be calculated as $v = k (h/d)$, in which "k" is the hydraulic conductivity (coefficient of permeability) and "(h/d)" is the hydraulic gradient. The hydraulic gradient is the maximum vertical distance "h" measured from the liquid surface to the liner bottom, divided by the thickness of the soil liner "d." When calculating the maximum soil liner seepage rate, the maximum operating depth, not considering design freeboard, shall be utilized.

ATTORNEY GENERAL
APR 0 6 2005
APPROVED BY

DEPT. OF ADMINISTRATION
MAR 2 4 2005
APPROVED BY FDI

(s) "Maximum synthetic membrane liner leakage rate" means a monitored or calculated leakage rate that is the more stringent of either 1/64 inch per day or the liner manufacturer's criteria for the material and installation of the membrane liner expressed in units of volume per area per unit of time (gallons per square feet per day).

(t) "Minimum standards of design, construction, and maintenance" means effluent standards, effluent limitations, pretreatment requirements, other performance standards, and other standards of design, construction, and maintenance for wastewater control facilities published by the department as "minimum standards of design for water pollution control facilities" and adopted by reference in K.A.R. 28-16-58.

(u) "Monitoring" means procedures using any of the following methods:

(1) Conducting inspections of industrial process operations or the operation of municipal, commercial, or industrial wastewater treatment systems;

(2) the systematic collection and analysis of data on operational parameters of industrial process operations or the operation of municipal, commercial, or industrial wastewater treatment systems; or

(3) the systematic collection and analysis of data on the quality of the domestic sewage, process wastewater, wastewater sludge, groundwater, surface water, or soils at or in the vicinity of the wastewater lagoon or wastewater pond.

(v) "Monitoring well" and "observation well" mean a well constructed for sampling fluids or groundwater and for observing subsurface phenomena including the presence of fluids,

ATTORNEY GENERAL DEPT. OF ADMINISTRATION
APR 0 6 2005 MAR 2 9 2005
APPROVED BY APPROVED BY FDL

groundwater elevations, the direction of groundwater flow, and the velocity of groundwater flow.

(w) "Municipal wastewater treatment system" means any of the following:

(1) A wastewater treatment system serving a city, county, township, sewer district, or other governmental unit;

(2) a state or federal agency, establishment, or institution treating primarily domestic sewage by physical, chemical, or biological methods or by a combination of these methods; or

(3) a wastewater treatment system operated by an entity listed in paragraph (w)(1) or (2) that receives significant quantities of domestic wastewater, process wastewater comprised primarily of conventional pollutants, non-contact cooling water, boiler blowdown, or process wastewater identified in K.A.R. 28-16-162(f) from industrial facilities if the introduction of these wastes meets the following conditions:

(A) Conforms with the EPA-promulgated pretreatment standards specified in K.A.R. 28-16-88;

(B) does not interfere or upset the operation of the wastewater treatment system;

(C) does not cause these wastes to pass through the treatment system either partially treated or untreated into the environment in unacceptable concentrations or quantities;

(D) does not cause a violation of the water pollution control permit;

(E) does not violate surface water quality standards; and

(F) does not adversely impact use of the wastewater for irrigation or adversely impact use of wastewater sludge for land application.

ATTORNEY GENERAL
APR 0 6 2005
APPROVED BY

DEPT. OF ADMINISTRATION
MAR 3 0 2005
APPROVED BY FDL

(x) "Oil or gas well" shall have the meaning assigned to the term "well" in K.S.A. 55-150, and amendments thereto.

(y) "Permit" and "water pollution control permit" mean an authorization, license, or equivalent control document issued by the department. A permit shall not include any document that has not yet been subject to final action by the department, including a draft or proposed permit.

(z) "Permittee" means a person who is authorized by a Kansas water pollution control permit to operate, or a person who is responsible for overseeing the operation of, a wastewater treatment system.

(aa) "Person" has the meaning specified in K.S.A. 65-170a, and amendments thereto.

(bb) "Pollution" has the meaning specified in K.S.A. 65-171d, and amendments thereto.

(cc) "Precipitation runoff" and "stormwater runoff" mean the rainwater or the meltwater that is derived from snow, hail, sleet, or other forms of atmospheric precipitation and that flows by gravity over the surface of the land.

(dd) "Secretary" has the meaning specified in K.A.R. 28-16-58.

(ee) "Sensitive groundwater areas," for the purpose of these municipal, commercial, and industrial wastewater lagoon regulations, means aquifers generally comprised of alluvial aquifers, the area within the boundaries of the Equus Beds groundwater management district no. 2 (GMD #2), and the Dune Sand Area located south of the great bend of the Arkansas River. A sensitive groundwater area shall be any section of land listed in "Kansas sensitive groundwater areas for wastewater lagoons," prepared by KDHE and dated January 1, 2005, which is hereby

ATTORNEY GENERAL DEPT. OF ADMINISTRATION

APR 06 2005 MAR 29 2005

adopted by reference.

(ff) "Sewage" and "wastewater" have the meaning specified in K.S.A. 65-164, and amendments thereto.

(gg) "Variance" means the secretary's written approval authorizing an alternative action to any of the requirements of these municipal, commercial, or industrial wastewater lagoon regulations, the standards adopted by these regulations, or the "minimum standards of design for water pollution control facilities," as adopted by reference in K.A.R. 28-16-58.

(hh) "Wastewater lagoon" and "wastewater pond" mean excavated or diked structures provided or used for retaining or treating municipal, commercial, or industrial sewage, process wastewater, cooling water, or stormwater runoff.

(ii) "Wastewater treatment system" means structures or devices that collect, store, stabilize, treat, or otherwise control pollutants so that after the discharge, disposal, or land application of wastewater treatment sludge or treated wastewater, water pollution will not occur, and the public health and waters of the state will be protected. This term shall not include lagoons and earthen basins that are regulated and permitted as a solid waste processing facility or solid waste landfill pursuant to K.S.A. 65-3401 et seq., and amendments thereto, and article 29. Discharges of wastewater from lagoons or earthen basins that are regulated and permitted as a solid waste processing facility or solid waste landfill shall be prohibited unless authorized by a Kansas water pollution control permit.

(jj) "Waters of the state" has the meaning specified in K.S.A. 65-161, and amendments thereto.

ATTORNEY GENERAL
APR 0 6 2005
APPROVED BY

DEPT. OF ADMINISTRATION
MAR 3 0 2005
APPROVED BY FDL

(kk) "Water well" has the meaning specified in K.S.A. 82a-1203, and amendments thereto. (Authorized by K.S.A. 65-165 and K.S.A. 2004 Supp. 65-171d; implementing K.S.A. 65-165, K.S.A. 65-166, K.S.A. 2004 Supp. 65-171d, and K.S.A. 65-171h; effective P-_____.)

ATTORNEY GENERAL

APR 0 6 2005

APPROVED BY

DEPT. OF ADMINISTRATION

MAR 2 9 2005

APPROVED BY FDL

2005-02-21

Kansas Department of Health and Environment
Proposed New Regulation

Article 16. Water Pollution Control

Municipal, Commercial and Industrial Wastewater
Lagoon Requirements

28-16-161. Municipal and commercial lagoons: general provisions. The following general provisions shall apply to municipal and commercial wastewater treatment system lagoons. (a) New or modified municipal or commercial wastewater treatment system lagoons shall be prohibited if the groundwater separation distance between the lagoon bottom and the groundwater table is 10 feet or less.

(b) For each new or modified lagoon, the permittee may employ a constructed soil liner if the maximum soil liner seepage rate is less than 1/4 inch per day and the lagoon is not constructed over sensitive groundwater areas, including the Equus Beds.

(c) For each new or modified lagoon constructed over sensitive groundwater areas, excluding the Equus Beds, the permittee may employ a constructed soil liner if the maximum soil liner seepage rate is less than 1/10 inch per day.

(d) For each new or modified lagoon constructed over the Equus Beds, the permittee shall, at a minimum, employ a single impermeable synthetic membrane liner and provide for the installation and sampling of groundwater monitoring wells as specified in K.A.R. 28-16-171. Constructed soil liners may be employed if all of the following conditions are met:

(1) The groundwater separation distance between the lagoon bottom and the groundwater table is greater than 10 feet.

ATTORNEY GENERAL DEPT. OF ADMINISTRATION

APR 0 6 2005 MAR 2 4 2005

APPROVED BY APPROVED BY FDL

(2) The hydrogeologic information developed for the site indicates that in situ soils exist in sufficient quantity to provide an effective pollution barrier to protect groundwater.

(3) A constructed soil liner will provide a maximum soil liner seepage rate of less than 1/10 inch per day.

(4) The design provides for the installation and sampling of groundwater monitoring wells as specified in K.A.R. 28-16-171.

(e) For each new or modified lagoon, the permittee may utilize a single impermeable synthetic membrane liner, in lieu of a constructed soil liner.

(f) Municipal and commercial wastewater treatment system lagoons in existence on the effective date of this regulation shall not be required to be modified or retrofitted to comply with the provisions of this regulation, unless either of the following occurs:

(1) The secretary determines that environmental or public health threats result from the operation of the lagoon, or data exists showing the actual or potential soil or water pollution.

(2) The modification, replacement, or expansion of a municipal or commercial wastewater lagoon results in the lagoon being dewatered, and the secretary orders the implementation of specific lagoon improvements to address conditions that result in noncompliance with statutory, regulatory, or permit requirements or that fail to ensure protection of public health or the environment. The permittee shall implement the specific improvements required by the secretary.

ATTORNEY GENERAL

APR 0 6 2005

APPROVED BY

DEPT. OF ADMINISTRATION

MAR 2 4 2005

APPROVED BY FDL

(g) For the purpose of K.A.R. 28-16-160 through K.A.R. 28-16-174, an actual or potential environmental or public health threat may be deemed to exist if physical, chemical, biological, or radiological substances, or a combination of these substances, is released into subsurface waters of the state and results in a concentration or amount of a substance in excess of the numerical criteria designated for aquatic life protection, agricultural use, or public health protection as provided in the "Kansas surface water quality standards: tables of numeric criteria," dated December 6, 2004, which is adopted by reference in K.A.R. 28-16-28e. If the background concentration of a substance is naturally occurring and is greater than the numerical criteria, the background concentration shall be considered the criteria.

(h) No person shall construct, operate, or maintain any municipal or commercial wastewater lagoon without obtaining a permit or permit modification from the department. (Authorized by K.S.A. 65-165, K.S.A. 2004 Supp. 65-171d, and K.S.A. 65-171h; implementing K.S.A. 65-164, K.S.A. 65-165, K.S.A. 65-166, K.S.A. 2004 Supp. 65-171d, and K.S.A. 65-171h; effective P-_____.)

ATTORNEY GENERAL
APR 0 6 2005
APPROVED BY

DEPT. OF ADMINISTRATION
MAR 2 4 2005
APPROVED BY FDL

2005-02-21

Kansas Department of Health and Environment
Proposed New Regulation

Article 16. Water Pollution Control

Municipal, Commercial and Industrial Wastewater
Lagoon Requirements

28-16-162. Industrial lagoons: general provisions. The following general provisions shall apply to industrial wastewater treatment system lagoons. (a) New or modified industrial wastewater treatment system lagoons shall be prohibited if the groundwater separation distance between the lagoon bottom and the groundwater table is 10 feet or less.

(b) For each new or modified lagoon utilized solely for the containment or treatment of domestic sewage, the permittee may employ a constructed soil liner if the maximum soil liner seepage rate is less than 1/4 inch per day and the lagoon is not constructed over sensitive groundwater areas, including the Equus Beds.

(c) For each new or modified lagoon constructed over sensitive groundwater areas, excluding the Equus Beds, and utilized solely for the containment or treatment of domestic sewage, the permittee may employ a constructed soil liner if the maximum soil liner seepage rate is less than 1/10 inch per day.

(d) For each new or modified lagoon constructed over the Equus Beds and utilized solely for the containment or treatment of domestic sewage, the permittee shall, at a minimum, employ a single impermeable synthetic membrane liner and provide for the installation and sampling of groundwater monitoring wells as specified in K.A.R. 28-16-171. Constructed soil liners may be employed if all of the following conditions are met:

DEPT. OF ADMINISTRATION
MAR 2 4 2005
APPROVED BY FDL

ATTORNEY GENERAL
APR 0 6 2005
APPROVED BY

(1) The groundwater separation distance between the lagoon bottom and the groundwater table is greater than 10 feet.

(2) The hydrogeologic information developed for the site indicates that in situ soils exist in sufficient quantity to provide an effective pollution barrier to protect groundwater.

(3) A constructed soil liner will provide a maximum soil liner seepage rate of less than 1/10 inch per day.

(4) The design provides for the installation and sampling of groundwater monitoring wells as specified in K.A.R. 28-16-171.

(e) For each new or modified lagoon utilized solely for the containment or treatment of domestic sewage, the permittee may utilize a single impermeable synthetic membrane liner, in lieu of a constructed soil liner.

(f) For each new or modified industrial wastewater lagoon, the permittee may utilize either a single impermeable synthetic membrane liner or a soil liner with a maximum soil liner seepage rate of less than 1/4 inch per day if the wastewater lagoons or ponds are utilized for the containment or treatment of process-generated wastewater and are limited to the following:

(1) Sediment control and aggregate wash water ponds used at limestone quarries;

(2) sediment control ponds used at clay pit operations;

(3) sediment control ponds used for classification and washing operations associated with sand and gravel dredging;

(4) ponds receiving once-through, non-contact cooling water in which there is no chemical addition to the cooling water and where the concentration of total dissolved solids in

ATTORNEY GENERAL DEPT. OF ADMINISTRATION

APR 0 6 2005 MAR 2 9 2005

APPROVED BY APPROVED BY FDL

the cooling water is not increased over the concentration of total dissolved solids in the groundwater;

(5) ponds receiving recirculated cooling water meeting any of the following conditions:

(A) The cooling water, if treated, is treated only with chlorine or bromine;

(B) the total dissolved solids and salt concentration of the cooling water in the ponds are not increased significantly above the groundwater source concentration;

(C) the total dissolved solids and salt concentration of the cooling water in the ponds do not exceed criteria that would prohibit the cooling water from being discharged in conformance with the Kansas surface water quality standards specified in K.A.R. 28-16-28b, 28-16-28c, 28-16-28d, and 28-16-28e; or

(D) the total dissolved solids and salt concentration of the cooling water in the ponds can be land-applied at agronomic application rates without the use of dilution water or freshwater application for controlling dissolved solids and salts;

(6) erosion-control sediment ponds associated with construction activities;

(7) tailwater control ponds utilized for the irrigation of wastewater from an industrial wastewater treatment system if the tailwater control pond is completely dewatered immediately at the completion of each irrigation application cycle;

(8) lime sludge storage lagoons associated with potable water-softening operations;

(9) lagoons that receive concrete washed off of, and from, concrete delivery trucks; and

(10) lagoons utilized for the containment or treatment of coal pile stormwater runoff, coal ash, and air pollution control scrubber wastes from facilities utilizing low-sulfur coal produced

ATTORNEY GENERAL DEPT. OF ADMINISTRATION

APR 0 6 2005 MAR 2 9 2005

APPROVED BY APPROVED BY FDL

in the powder river basin of Wyoming.

(g) Each new industrial wastewater lagoon utilized for the containment or treatment of industrial process wastewater shall utilize an impermeable synthetic membrane liner system with a maximum synthetic membrane liner leakage rate that is less than the more stringent of either of the following:

(1) A maximum monitored or calculated seepage rate of 1/64 inch per day; or

(2) the liner manufacturer's criteria for the material and installation of the synthetic membrane liner system expressed in units of volume per area per unit of time (gallons per square feet per day).

(h) Industrial wastewater treatment system lagoons in existence on the effective date of this regulation shall not be required to be modified or retrofitted to comply with the provisions of this regulation, unless either of the following occurs:

(1) The secretary determines that environmental or public health threats result from the operation of the lagoon, or data exists showing the actual or potential soil or water pollution.

(2) The modification, replacement, or expansion of an industrial wastewater lagoon results in the lagoon being dewatered, and the secretary or designee orders the implementation of specific lagoon improvements to address conditions that result in noncompliance with statutory, regulatory, or permit requirements or that fail to ensure protection of public health or the environment. Only those specific improvements required by the secretary or designee shall be required to be implemented by the permittee.

(i) For the purpose of K.A.R. 28-16-160 through K.A.R. 28-16-174, an actual or

DEPT. OF ADMINISTRATION
ATTORNEY GENERAL
MAR 2 4 2005
APR 0 6 2005
APPROVED BY FDL

potential environmental or public health threat may be deemed to exist if physical, chemical, biological, or radiological substances, or a combination of these substances, is released into subsurface waters of the state and results in a concentration or amount of a substance in excess of the numerical criteria designated for aquatic life protection, agricultural use, or public health protection as provided in the "Kansas surface water quality standards: tables of numeric criteria," dated December 6, 2004, which is adopted by reference in K.A.R. 28-16-28e. If the background concentration of a substance is naturally occurring and is greater than the numeric criteria, the background concentration shall be considered the criteria.

(j) Land-based sand and gravel pits shall be exempt from the provisions of K.A.R. 28-16-160 through 28-16-174 if the only water or wastewater directed to the dredge pit consists of the following:

(1) Dredge return flows;

(2) flows generated from aggregate classification; and

(3) flows from washing dredged aggregate if water used in creating these flows originates from and is returned to the dredge pit.

(k) No person shall construct, operate, or maintain any industrial wastewater lagoon without obtaining a permit or permit modification from the department. (Authorized by K.S.A. 2004 Supp. 65-171d and K.S.A. 65-171h; implementing K.S.A. 65-164, K.S.A. 65-165, K.S.A. 65-166, K.S.A. 2004 Supp. 65-171d, and K.S.A. 65-171h; effective P-_____.)

ATTORNEY GENERAL

APR 0 6 2005

APPROVED BY

DEPT. OF ADMINISTRATION

MAR 2 4 2005

APPROVED BY FDL

2004-04-12

Kansas Department of Health and Environment
Proposed New Regulation

Article 16. Water Pollution Control

Municipal, Commercial and Industrial Wastewater
Lagoon Requirements

28-16-163. Required hydrogeologic information for new or modified municipal, commercial, or industrial wastewater lagoons. (a) Each hydrogeologic investigation that is conducted by or on behalf of the permittee for new or modified wastewater lagoons shall consist of borings or excavations to a depth of at least 10 feet below the bottom of the wastewater lagoon or to impenetrable bedrock if impenetrable bedrock is encountered less than 10 feet below the lagoon bottom. The bottom of the lagoon shall be determined by the lowest interior surface elevation, at finished grade, of the lagoon structure.

(b) The permittee shall ensure that a minimum of one boring or excavation is performed for each acre of wastewater lagoon, with the area being calculated based on the interior dike dimensions measured at the top of the dike. If the wastewater lagoon is less than one acre in size, a minimum of one boring or excavation shall be required.

(c) The minimum requirements for a hydrogeologic site investigation shall consist of the following:

(1) The logging of all borings or excavations identifying the soil types encountered;

(2) recording the ground surface elevation and location of each boring or excavation. The elevation may be based upon the project datum;

ATTORNEY GENERAL
MAY 5 2004

DEPT. OF ADMINISTRATION
APR 1 6 2004
APPROVED BY FDL

(3) measuring and recording static groundwater levels after the groundwater level has stabilized following the boring or excavation. If no water is readily evident at the time of the boring or excavation, the boring or excavation shall be left open for a minimum of 24 hours. If, after 24 hours, no water is observed, a determination of "no groundwater" shall be reported. Water wells in the immediate vicinity of the proposed wastewater lagoon may be used to help document the presence or absence of groundwater and establish the groundwater elevation, in addition to the borings or excavations, for the hydrogeologic investigation if the secretary or designee agrees to accept the data as being representative of the proposed site;

(4) the collection of sufficient representative soil samples, if in situ soil materials will be employed in the construction of the compacted soil liner or the lagoon structure, for analysis in determining soil classification, compaction, and permeability for use in designing the lagoon soil liner or embankments, as appropriate; and

(5) a summary, to be submitted with or as a part of the engineering report, evaluating the hydrogeologic information obtained and an analysis of that information regarding the expected impact that the observed hydrogeologic conditions will have on the construction of lagoon embankments and, as appropriate, the expected performance of a constructed soil liner in regard to complying with the maximum soil liner seepage rate requirement.

(d) Hydrogeologic information shall not be required for erosion-control ponds associated with construction activities.

(e) Each permit applicant or permittee, if directed by the secretary, shall notify the department a minimum of two days before performing any hydrogeologic investigation fieldwork

ATTORNEY GENERAL DEPT. OF ADMINISTRATION
MAY 5 2004 APR 16 2004
APPROVED BY FDL

activities to allow the opportunity for department staff to witness the activities.

(f) All hydrogeologic information shall be obtained by or under the direct supervision of either a licensed professional engineer or a licensed geologist. (Authorized by K.S.A. 2003 Supp. 65-171d; implementing K.S.A. 65-170b and K.S.A. 2003 Supp. 65-171d; effective P-_____.)

ATTORNEY GENERAL

MAY 5 2004

DEPT. OF ADMINISTRATION

MAY 0 4 2004

APPROVED BY FDL

2004-05-03

Kansas Department of Health and Environment
Proposed New Regulation

Article 16. Water Pollution Control

Municipal, Commercial and Industrial Wastewater
Lagoon Requirements

28-16-164. Municipal, commercial, and industrial wastewater treatment system lagoons: soil liner design. (a) Each permit applicant shall submit with the construction plans and specifications hydrogeologic information, soil testing data, and design calculations documenting that the proposed use of in situ soils or a constructed soil liner is capable of meeting the required maximum soil liner seepage rate.

(b) Whether in situ soils or a constructed soil liner is utilized for the wastewater lagoon, a minimum of one foot of natural soil or one foot of constructed liner shall be provided.

(Authorized by K.S.A. 2003 Supp. 65-171d; implementing K.S.A. 65-164, 65-165, 65-166, and K.S.A. 2003 Supp. 65-171d; effective P-_____.)

ATTORNEY GENERAL

MAY 5 2004

DEPT. OF ADMINISTRATION

MAY 0 4 2004

APPROVED BY FDL

2004-04-12

Kansas Department of Health and Environment
Proposed New Regulation

Article 16. Water Pollution Control

Municipal, Commercial and Industrial Wastewater
Lagoon Requirements

28-16-165. Municipal, commercial, and industrial soil liners: postconstruction testing. (a) Each permit applicant or permittee proposing a new municipal, commercial, or industrial wastewater treatment lagoon that will employ a soil liner system shall, when submitting construction plans and specifications to KDHE for review and consideration for approval, also submit information addressing each method to be employed for postconstruction testing of the soil liner for compliance with the required maximum soil liner seepage rate. Each proposed test method shall provide an appropriate degree of monitoring sensitivity and accuracy in addressing the following test variables:

(1) The maximum soil liner seepage rate;

(2) the surface area of the lagoon being tested;

(3) the proposed duration of the test;

(4) the time of year and general weather conditions expected during the test period;

(5) the proposed monitoring equipment;

(6) the expected magnitude of evaporation during the test period;

(7) the degree that wind and wave action will impact measurement accuracy; and

(8) the frequency of data collection during the test period.

ATTORNEY GENERAL

MAY 5 2004

mf

DEPT. OF ADMINISTRATION

APR 14 2004

APPROVED BY FDL

(b) Within 45 days following the completion of construction, the permittee or applicant shall submit to the department a certification and, if requested, any supporting documentation, confirming that the wastewater lagoon and the wastewater lagoon liner system were constructed in accordance with the plans and specifications approved by the secretary.

(c) The certification specified in subsection (b) shall be signed by a licensed professional engineer who monitored the construction activities and installation of the soil liner system. The certification shall be based on actual observations by the licensed professional engineer, or designee, during construction and any field or laboratory data developed during or following construction.

The construction activities and any sample collection for field or laboratory data developed during or following construction shall be directly observed by the licensed professional engineer or designee. The monitoring of construction activities or the collection of samples or data shall be conducted by the licensed professional engineer or a designee under the licensed professional engineer's direct supervision.

(d)(1) Within eight months following approval by the secretary to initiate the filling or use of the wastewater lagoon, the permittee or permit applicant shall conduct and report, to KDHE, the results of the postconstruction testing of the soil liner for compliance with the required maximum soil liner seepage rate. This report shall meet the requirements specified in paragraph (d)(2). If the required maximum soil liner seepage rate can not be met, the report submitted to KDHE for review and consideration for approval shall provide a plan and schedule of proposed actions required to achieve compliance.

ATTORNEY GENERAL DEPT. OF ADMINISTRATION

APR 0 6 2005 MAR 2 4 2005

APPROVED BY APPROVED BY FDL

(2) The postconstruction testing specified in paragraph (d)(1) shall be conducted in conformance with the method or methods approved by the secretary to ensure the protection of public health and the environment. The postconstruction testing of the soil liner shall be conducted by a licensed professional engineer or a designee under the licensed professional engineer's direct supervision.

The permittee or permit applicant shall provide a certification signed by the licensed professional engineer as to whether or not the soil liner meets the required maximum soil liner seepage rate.

(e) Each permit applicant, when directed by the secretary, shall notify the department a minimum of two days before performing any soil liner seepage testing to allow the opportunity for department staff to witness the test.

(f) Postconstruction testing shall not be required for erosion-control sediment ponds associated with construction activities. (Authorized by K.S.A. 2004 Supp. 65-171d and K.S.A. 65-171h; implementing K.S.A. 65-164, K.S.A. 65-165, K.S.A. 65-166, K.S.A. 65-170b, K.S.A. 2004 Supp. 65-171d, and K.S.A. 65-171h; effective P-_____.)

ATTORNEY GENERAL
APR 0 6 2005
APPROVED BY

DEPT. OF ADMINISTRATION
MAR 2 4 2005
APPROVED BY FDL

2004-04-12

Kansas Department of Health and Environment
Proposed New Regulation

Article 16. Water Pollution Control

Municipal, Commercial and Industrial Wastewater
Lagoon Requirements

28-16-166. Requirements for impermeable synthetic membrane liners in municipal or commercial wastewater treatment system lagoons. (a) The following requirements shall apply to municipal or commercial impermeable synthetic membrane liners:

(1) The liner shall be at least 30 mils (0.030 inch) in thickness.

(2) The engineer designing the wastewater lagoon shall obtain a certification from the liner manufacturer that includes the following:

(A) Confirmation that the specified liner is compatible for use with the proposed wastewater to be retained or treated;

(B) confirmation that the specified liner is resistant to UV (ultraviolet) light; and

(C) the manufacturer's estimated leakage, permeability, or transmissivity rate of the specified liner expressed in units of volume per area per time (gallons per square feet per day) for a properly installed liner. The leakage, permeability, or transmissivity rate shall reflect the expected rate of movement of fluids through a synthetic membrane liner when considering the properties of the liner material, liner thickness, normally expected manufacturing defects in the liner material, and normally expected defects associated with the seaming and installation process.

(b) Compaction of the wastewater treatment lagoon embankments and upper six inches

ATTORNEY GENERAL
MAY 5 2004
DEPT. OF ADMINISTRATION
APR 14 2004
APPROVED BY

of the interior lagoon bottom below the synthetic liner shall be a minimum of 95 percent of the maximum standard proctor density at optimum moisture to optimum moisture plus three percent. The maximum thickness of the layers of material to be compacted shall not exceed six inches. The moisture content range of the soils being compacted shall be optimum moisture to optimum moisture plus three percent. The maximum size of dirt clods in the compacted soil shall be less than one inch in diameter.

(c) The liner shall be anchored at the top of the wastewater lagoon dike. The method of anchoring the liner shall conform to the manufacturer's installation instructions.

(d) The liner shall be installed in accordance with the liner manufacturer's instructions and guidance. Either the liner shall be installed by a contractor experienced in the installation of impermeable synthetic membrane liners, or the contractor shall provide for the on-site supervision of the liner installation by an individual that has experience installing liners.

(e) The construction plans and specifications shall include provisions for the use of a reliable seam-testing method that shall be used to verify the adequacy of the seaming process. The methods for destructive and non-destructive seam testing shall be specified, along with a protocol describing the number of tests per lineal foot of field seam, the size of the destructive test specimen required, and any other quality control provisions recommended by the liner manufacturer. All field seams shall be subjected to non-destructive testing.

(f) The Kansas "minimum standards of design for water pollution control facilities" shall be utilized in the design and the establishment of construction criteria for wastewater lagoons, unless different criteria are specified in K.A.R. 28-16-160 through K.S.A. 28-16-174. If there is

ATTORNEY GENERAL DEPT. OF ADMINISTRATION

APR 0 6 2005 MAR 2 4 2005

APPROVED BY APPROVED BY FDL

any difference between the design and construction criteria specified in K.A.R. 28-16-160 through K.A.R. 28-16-174 and either the Kansas "minimum standards of design for water pollution control facilities" or regulations in articles 5, 13, or 30, the design and construction criteria specified in K.A.R. 28-16-160 through K.A.R. 28-16-174 shall control.

(g) A minimum of two feet of in situ or compacted soil shall be provided beneath the liner or bedding material.

(h) Each applicant or permittee shall develop and submit with the construction plans and specifications a contingency plan, for KDHE review and consideration for approval, that outlines procedures for pond containment and operation during periods of maintenance and during periods of required dewatering if a liner fails or needs to be repaired.

(i)(1) Each permittee shall immediately cease operations or shall comply with the instructions of the secretary, if the secretary determines that an imminent threat or the potential for an imminent threat to public health or the environment exists due to any unsafe operating condition. Considerations regarding an imminent threat or the potential for an imminent threat to public health or the environment shall include the following:

(A) The pollutant or pollutants involved;

(B) the integrity of the impermeable synthetic membrane liner;

(C) the depth to groundwater;

(D) the monitoring well or water supply well data;

(E) the mobility of the pollutant or pollutants through soil or groundwater;

(F) the potential exposure to the public; and

DEPT. OF ADMINISTRATION
ATTORNEY GENERAL
MAR 2 9 2005
APR 0 6 2005
APPROVED BY FDL
APPROVED BY

(G) the potential for uncontrolled release into the environment.

(2) The permittee may resume operations if the secretary determines that the wastewater lagoon no longer poses a risk to public health and the environment. (Authorized by K.S.A. 2004 Supp. 65-171d and K.S.A. 65-171h; implementing K.S.A. 65-164, K.S.A. 65-165, K.S.A. 65-166, K.S.A. 2004 Supp. 65-171d, and K.S.A. 65-171h; effective P-_____.)

ATTORNEY GENERAL
APR 0 6 2005
APPROVED BY

DEPT. OF ADMINISTRATION
MAR 2 4 2005
APPROVED BY FDL

2004-04-12

Kansas Department of Health and Environment
Proposed New Regulation

Article 16. Water Pollution Control

Municipal, Commercial and Industrial Wastewater
Lagoon Requirements

28-16-167. Requirements for impermeable synthetic membrane liners in industrial wastewater treatment system lagoons. (a) The following requirements shall apply to industrial impermeable synthetic membrane liners:

(1) The impermeable synthetic membrane liner system shall be comprised of primary and secondary impermeable synthetic membrane liners with an intermediate leak detection system provided.

(2) Each primary and secondary liner shall be at least 30 mils (0.030 inch) in thickness.

(3) The licensed professional engineer designing the wastewater lagoon shall obtain a certification from the liner manufacturer that includes the following:

(A) Confirmation that the specified liner is compatible for use with the proposed wastewater to be retained or treated;

(B) confirmation that the specified liner is resistant to UV (ultraviolet) light; and

(C) the manufacturer's estimated leakage, permeability, or transmissivity rate of the specified liners expressed in units of volume per area per time (gallons per square feet per day) for a properly installed liner. The leakage, permeability, or transmissivity rate shall reflect the expected rate of movement of fluids through a synthetic membrane liner when considering the properties of the liner material, liner thickness, normally expected manufacturing defects in the

ATTORNEY GENERAL

MAY 5 2004

DEPT. OF ADMINISTRATION

APR 14 2004

APPROVED BY FDL

liner material, and normally expected defects associated with the seaming and installation process.

(b) A minimum of two cells shall be provided to allow for flexibility of operation and maintenance of the wastewater lagoon system. This requirement may be waived by the secretary if an approved alternative wastewater disposal option is available and the operator agrees to employ the alternative wastewater disposal option when the wastewater lagoon system is required to be dewatered. Each approved alternative wastewater disposal option shall include a means of disposal for which the required permits, licenses, or authorizations have been obtained.

(c) The primary and secondary liners shall be separated to provide a conduit to allow the movement of any fluid between the liners so that the fluid can be directed to the leak-detection monitoring location for detection and removal. Clean sand, pea gravel, geotextile fabric, and geonet-type materials may be employed to provide the required separation between the primary and secondary liners if a conduit allowing for fluid movement to the leak-detection monitoring location is provided. Alternatives may be recommended by the liner manufacturer or design engineer and shall be submitted to the secretary for review and consideration for approval.

(d) The secondary liner in the pond bottom shall have at least a 2.5 percent slope towards the leak-detection system's monitoring sump, manhole, observation pipe, or other similar leak-detection monitoring mechanism. Any piping used to collect or route fluids to the leak-detection monitoring mechanism shall have at least a one percent slope. The leak-detection system design shall ensure that the maximum travel time required for fluid penetrating the liner to reach the leak-detection monitoring location is 24 hours or less.

ATTORNEY GENERAL
MAY 5 2004
DEPT. OF ADMINISTRATION
APR 14 2004
APPROVED BY FDL

(e) The design of the impermeable synthetic membrane liner system shall provide for the capability to perform the following:

(1) Routinely dewater and monitor the volume of fluid removed from the intermediate space between the primary and secondary liners;

(2) pump a volume of fluid generated that is equal to 10 times the maximum synthetic membrane liner leakage rate; and

(3) collect a representative sample of fluid being pumped.

(f) Compaction of the wastewater treatment lagoon embankments and upper six inches of the interior lagoon bottom below the secondary liner shall be a minimum of 95 percent of the maximum standard proctor density at optimum moisture to optimum moisture plus three percent. The maximum thickness of the layers of material to be compacted shall not exceed six inches. The moisture content range of the soils being compacted shall be optimum moisture to optimum moisture plus three percent. The maximum size of dirt clods in the compacted soil shall be less than one inch in diameter.

(g) The primary and secondary liners shall be anchored at the top of the wastewater lagoon dike. The method of anchoring the primary and secondary liners shall conform to the manufacturer's installation instructions.

(h) The liner shall be installed in accordance with the liner manufacturer's instructions. Either the liner shall be installed by a contractor experienced in the installation of impermeable synthetic membrane liners, or the contractor shall provide for the on-site supervision of the liner installation by an individual that has experience installing liners.

ATTORNEY GENERAL

MAY 5 2004

mf

DEPT. OF ADMINISTRATION

APR 16 2004

APPROVED BY FDL

(i) The construction plans and specifications shall include provisions for the use of a reliable seam-testing method that shall be used to verify the adequacy of the seaming process. The methods for destructive and non-destructive seam testing shall be specified, along with detailed procedures describing the number of tests per lineal foot of field seam, the size of the destructive test specimen required, and any other pertinent quality control provisions recommended by the liner manufacturer. All field seams shall be subjected to non-destructive testing.

(j) The Kansas "minimum standards of design for water pollution control facilities" shall be utilized in the design and the establishment of construction criteria for wastewater lagoons, unless different criteria are specified in K.A.R. 28-16-160 through K.A.R.28-16-174. If there is any difference between the design and construction criteria specified in K.A.R. 28-16-160 through K.A.R. 28-16-174 and either the Kansas "minimum standards of design for water pollution control facilities" or regulations in articles 5, 13, or 30, the design and construction criteria specified in K.A.R. 28-16-160 through K.A.R. 28-16-174 shall control.

(k) A minimum of two feet of in situ or compacted soil shall be provided beneath the bottom of the secondary liner or liner bedding material.

(l) Each applicant or permittee shall develop and submit with the construction plans and specifications a contingency plan, for the secretary's review and consideration for approval, that outlines procedures for pond containment and operation during periods of maintenance and periods of required dewatering if a liner fails or needs to be repaired or replaced.

(m)(1) Each permittee shall immediately cease operations or shall comply with the

ATTORNEY GENERAL DEPT. OF ADMINISTRATION

APR 0 6 2005 MAR 2 9 2005

APPROVED BY APPROVED BY FDL

instructions of the secretary, if the secretary determines that an imminent threat or the potential for an imminent threat to public health or the environment exists due to any unsafe operating condition. Considerations regarding an imminent threat or the potential for an imminent threat to public health or the environment shall include the following:

(A) The pollutant or pollutants involved;

(B) the integrity of the impermeable synthetic membrane liner;

(C) the depth to groundwater;

(D) the monitoring well or water supply well data;

(E) the mobility of the pollutant or pollutants through soil or groundwater;

(F) the potential exposure to the public; and

(G) the potential for uncontrolled release into the environment.

(2) The permittee may resume operations if the secretary determines that the wastewater lagoon no longer poses a risk to public health and the environment. (Authorized by K.S.A. 2004 Supp. 65-171d and K.S.A. 65-171h; implementing K.S.A. 65-164, K.S.A. 65-165, K.S.A. 65-166, K.S.A. 2004 Supp. 65-171d, and K.S.A. 65-171h; effective P- _____.)

ATTORNEY GENERAL
APR 0 6 2005
APPROVED BY

DEPT. OF ADMINISTRATION
MAR 2 4 2005
APPROVED BY FDL

2004-04-12

Kansas Department of Health and Environment
Proposed New Regulation

Article 16. Water Pollution Control

Municipal, Commercial and Industrial Wastewater
Lagoon Requirements

28-16-168. Postconstruction testing of municipal, commercial, and industrial impermeable synthetic membrane liners. (a) Each permit applicant or permittee proposing a new municipal, commercial, or industrial wastewater treatment lagoon that will employ an impermeable synthetic membrane liner shall, when submitting construction plans and specifications to the secretary for review and consideration for approval, also submit information addressing each method to be employed for postconstruction testing of the impermeable synthetic membrane liner to ensure that it is installed properly and for compliance with the required maximum synthetic membrane liner leakage rate. Each proposed test method shall provide an appropriate degree of monitoring sensitivity and accuracy in addressing the following test variables:

(1) The maximum synthetic membrane liner leakage rate;

(2) the surface area of the lagoon being tested;

(3) the proposed duration of the test;

(4) the time of year and general weather conditions expected during the test period;

(5) the proposed monitoring equipment;

(6) the expected magnitude of evaporation during the test period;

(7) the degree that wind and wave action will impact measurement accuracy; and

ATTORNEY GENERAL
MAY 5 2004
DEPT. OF ADMINISTRATION
APR 14 2004
APPROVED BY FDL

(8) the frequency of data collection during the test period.

(b) Within 45 days following the completion of construction, the permittee or applicant shall submit to the department a certification and, if requested, any supporting documentation, confirming that the wastewater lagoon and the wastewater lagoon liner system were constructed in accordance with the plans and specifications approved by the secretary.

(c) The certification shall be signed by the licensed professional engineer who monitored the construction activities and installation of the impermeable synthetic membrane liner or liner system. The licensed professional engineer's certification shall be based on actual observations during construction and installation and any field or laboratory data developed during or following construction or installation.

The construction and installation activities and any testing or sample collection for field or laboratory data developed during or following construction and installation shall be directly observed by the licensed professional engineer or designee. The monitoring of construction and installation activities or the collection of samples or data shall be conducted by a licensed professional engineer or a designee under the licensed professional engineer's direct supervision.

(d)(1) Within two months, or an alternative time frame proposed by the design engineer and approved by secretary, and following approval by the secretary to initiate the filling or use of the lagoon, the permittee shall conduct and report, to KDHE, the results of the postconstruction testing of the impermeable synthetic membrane liner or liner system for compliance with the required maximum synthetic membrane liner leakage rate. This report shall meet the requirements specified in paragraph (d)(2). If the required maximum synthetic membrane liner

ATTORNEY GENERAL DEPT. OF ADMINISTRATION

APR 0 6 2005 MAR 2 9 2005

APPROVED BY APPROVED BY FDL

leakage rate can not be met, the report shall provide a plan and schedule of proposed actions required to achieve compliance, for review and consideration for approval by the secretary.

(2) The postconstruction testing specified in paragraph (d)(1) shall be conducted in conformance with the method or methods approved by the secretary, pursuant to subsection (a), to ensure the protection of public health and the environment. The postconstruction monitoring or testing of the synthetic membrane liner or liner system shall be conducted by a licensed professional engineer or a designee, under the engineer's supervision.

The permittee shall provide a certification signed by the licensed professional engineer as to whether or not the synthetic membrane liner or liner system complies with the maximum synthetic membrane liner leakage rate.

(e) Each permit applicant, when directed by the secretary, shall notify the department a minimum of two days before performing any leak-detection testing, on the entire liner, to allow the opportunity for department staff to witness the test. (Authorized by K.S.A. 2004 Supp. 65-171d and K.S.A. 65-171h; implementing K.S.A. 65-164, K.S.A. 65-165, K.S.A. 65-166, K.S.A. 65-170b, K.S.A. 2004 Supp. 65-171d, and K.S.A. 65-171h; effective P-_____.)

DEPT. OF ADMINISTRATION
MAR 2 4 2005
APPROVED BY FDL

ATTORNEY GENERAL
APR 0 6 2005
APPROVED BY

2004-05-03

Kansas Department of Health and Environment
Proposed New Regulation

Article 16. Water Pollution Control

Municipal, Commercial and Industrial Wastewater
Lagoon Requirements

28-16-169. Minimum standards of design, construction, and maintenance. (a) The permit applicant or permittee shall design and construct municipal, commercial, and industrial wastewater treatment system lagoons to conform to effluent standards, effluent limitations, pretreatment requirements, other performance standards, and standards of design, construction, and maintenance for wastewater control facilities published by the department as "minimum standards of design for water pollution control facilities" and adopted by reference in K.A.R. 28-16-58, or the provisions of K.A.R. 28-16-160 through 28-16-174.

(b) If there is a discrepancy between K.A.R. 28-16-160 through 28-16-174 and the "minimum standards of design, construction, and maintenance" as defined in K.A.R. 28-16-160, K.A.R. 28-16-160 through 28-16-174 shall control. (Authorized by K.S.A. 2003 Supp. 65-171d and K.S.A. 65-171h; implementing K.S.A. 65-164, 65-165, 65-166, K.S.A. 2003 Supp. 65-171d, and K.S.A. 65-171h; effective P- _____.)

ATTORNEY GENERAL

MAY 5 2004

DEPT. OF ADMINISTRATION

MAY 0 4 2004

APPROVED BY FDL

2004-05-03

Kansas Department of Health and Environment
Proposed New Regulation

Article 16. Water Pollution Control

Municipal, Commercial and Industrial Wastewater
Lagoon Requirements

28-16-170. Water, oil, or gas wells. (a) Each permit applicant or permittee submitting construction plans for a municipal, commercial, or industrial wastewater treatment system lagoon shall identify, on the construction plans, the location of any active, abandoned, or plugged water, oil, or gas well within 600 feet of any proposed location for a wastewater lagoon.

(b) If the permit applicant or permittee is unable to confirm the exact location of any well or wells, the permit applicant or permittee shall include in the construction plans a note indicating the potential for the well or wells to be encountered in the vicinity of the proposed wastewater lagoon.

(c) Each active, abandoned, or plugged water, oil, or gas well that is encountered during construction and that was not identified or located on the construction plans shall be reported to the department within 48 hours of discovery. Construction activities that have the potential to impact the well shall be immediately terminated until the secretary or designee authorizes the construction to resume. (Authorized by K.S.A. 2003 Supp. 65-171d; implementing K.S.A. 65-165, 65-166, K.S.A. 2003 Supp. 65-171d, and K.S.A. 65-171h; effective P-_____.)

ATTORNEY GENERAL

MAY 5 2004

DEPT. OF ADMINISTRATION

MAY 0 4 2004

APPROVED BY FDL

2004-03-01

Kansas Department of Health and Environment
Proposed New Regulation

Article 16. Water Pollution Control

Municipal, Commercial and Industrial Wastewater
Lagoon Requirements

28-16-171. Monitoring wells. (a) The installation and sampling of groundwater monitoring wells in the vicinity of any municipal, commercial, or industrial wastewater treatment system lagoon may be required by the secretary. Equivalent technology, in lieu of requiring the installation and sampling of groundwater monitoring wells, may be required or authorized by the secretary.

(b) The location, design, and proposed construction of monitoring wells or the use of equivalent technology in lieu of monitoring wells shall be subject to approval by the secretary. Approval of the location, design, and proposed construction of monitoring well or wells or the use of equivalent technology shall be approved by the secretary before the permit applicant or permittee initiates installation.

(c) Groundwater monitoring wells shall be constructed by KDHE-licensed water well contractors.

(d) When directed by KDHE to install any groundwater monitoring well or wells, the applicant or permittee shall submit a groundwater monitoring plan for review and approval by the secretary. Each plan shall address the following:

(1) The location of each proposed monitoring well;

(2) the monitoring well design and materials proposed for construction;

ATTORNEY GENERAL
MAY 5 2004
MF

DEPT. OF ADMINISTRATION
MAR 25 2004
APPROVED

(3) a quality assurance plan addressing techniques for monitoring the static groundwater elevation, collecting samples, preserving samples, and laboratory analysis by a KDHE-certified laboratory for the parameters being analyzed. (Authorized by K.S.A. 2003 Supp. 65-171d; implementing K.S.A. 65-164, 65-170b, and K.S.A. 2003 Supp. 65-171d; effective P-_____.)

ATTORNEY GENERAL
MAY 5 2004
DEPT. OF ADMINISTRATION
MAY 0 4 2004
APPROVED BY FDL

2004-05-03

Kansas Department of Health and Environment
Proposed New Regulation

Article 16. Water Pollution Control

Municipal, Commercial and Industrial Wastewater
Lagoon Requirements

28-16-172. Plan and specification approval; permit issuance. (a) Neither the approval of an engineering report, hydrogeologic report, construction plans, or construction specifications nor the issuance of a permit by the secretary shall prohibit the secretary from taking any enforcement action if the municipal, commercial, or industrial wastewater lagoon fails to protect waters of the state, meet any specified effluent criteria, or comply with state surface water quality standards. In addition, an approval or permit issuance shall not constitute a defense by the permit applicant or permittee regarding the violation of any statute, regulation, permit condition, or requirement.

(b) The permit applicant or permittee shall not deviate from the plans and specifications submitted to and approved by the secretary, unless amended plans and specifications showing the proposed changes are submitted to and approved by the secretary. (Authorized by K.S.A. 2003 Supp. 65-171d; implementing K.S.A. 65-164 and K.S.A. 2003 Supp. 65-171d; effective P-_____.)

ATTORNEY GENERAL

MAY 5 2004

MF

DEPT. OF ADMINISTRATION

MAY 0 4 2004

APPROVED BY FDL

2004-04-12

Kansas Department of Health and Environment
Proposed New Regulation

ATTORNEY GENERAL
MAY 5 2004
MF

Article 16. Water Pollution Control

Municipal, Commercial and Industrial Wastewater
Lagoon Requirements

28-16-173. Municipal, commercial, and industrial wastewater lagoons: closure requirements. (a) Each wastewater lagoon permittee shall notify the secretary of any plans to cease operation of, close, or abandon a municipal, commercial, or industrial wastewater lagoon or lagoon system.

(b) Each permittee shall maintain and comply with a valid Kansas water pollution control permit until the secretary approves the closure of the wastewater lagoon or lagoon system.

(c) Each permit applicant or permittee shall develop and submit a wastewater lagoon closure plan for review and consideration for approval by the secretary along with the construction plans and specifications for any new, modified, or expanded wastewater lagoon or lagoon system.

(d) Each wastewater lagoon closure plan shall, at a minimum, include all of the following:

(1) The procedure for deactivating the various wastewater collection and treatment units employed at the facility;

(2) the procedures to be employed to remediate, remove, or dispose of wastewater, accumulated sludge in the wastewater lagoon or lagoons, any impermeable synthetic membrane liner, contaminated soils, and contaminated groundwater;

DEPT. OF ADMINISTRATION
APR 14 2004
APPROVED BY FDL

(3) a description regarding the proposed maintenance, deactivation, conversion, or demolition of the wastewater lagoon structure;

(4) procedures addressing the plugging of any water wells or groundwater monitoring wells associated with the facility, wastewater lagoon, or wastewater lagoon system; and

(5) an estimate of the design life of an impermeable synthetic membrane liner if this type of liner is utilized at the wastewater lagoon.

(e) Each permittee of a wastewater lagoon shall prepare or update, when directed by the secretary, a wastewater lagoon closure plan for review and consideration for approval by the secretary and shall retain the plan at the facility in a manner that is accessible for inspection by the department.

(f) The closure of a wastewater lagoon or lagoon system shall be completed within one year of authorization by the secretary to initiate closure.

(g) Each permittee requesting an extension of time for closure of a wastewater lagoon shall submit the request in writing to the secretary, and the request shall detail the reasons for the requested extension. Consideration of weather conditions and the legal change in ownership of the facility may constitute grounds for the secretary's consideration in granting an extension. (Authorized by K.S.A. 2003 Supp. 65-171d and K.S.A. 65-171h; implementing K.S.A. 65-164, K.S.A. 2003 Supp. 65-171d, and K.S.A. 65-171h; effective P-_____.)

ATTORNEY GENERAL

MAY 5 2004

DEPT. OF ADMINISTRATION

MAY 0 4 2004

APPROVED BY FDL

2004-05-03

Kansas Department of Health and Environment
Proposed New Regulation

Article 16. Water Pollution Control

Municipal, Commercial and Industrial Wastewater
Lagoon Requirements

28-16-174. Variance from specific requirements. (a) Each person seeking a variance from any of the requirements in K.A.R. 28-16-160 through 28-16-173 shall submit to the secretary, in writing, a request for the variance and shall provide information and data relevant to the variance request, for the secretary's review and consideration for approval.

(b) Each variance request shall specify why the request should be considered and how the requested variance meets the provisions of K.A.R. 28-16-160 through 28-16-173 and provides for protection of public health and the environment.

(c) A variance may be granted by the secretary if the request is in keeping with the provisions of K.A.R. 28-16-160 through 28-16-173 and the secretary determines that the requested variance will protect public health and the environment. In evaluating each variance request, site-specific conditions, which may include the depth to groundwater, the quantity of groundwater present, hydrogeologic factors, alternative technical information, and alternative designs, shall be considered by the secretary. (Authorized by K.S.A. 2003 Supp. 65-171d; implementing K.S.A. 65-164 and K.S.A. 2003 Supp. 65-171d; effective P-_____.)

ATTORNEY GENERAL
MAY 5 2004
mf

DEPT. OF ADMINISTRATION
MAY 0 4 2004
APPROVED BY FDL