Kansas Administrative Regulations

Department of Health and Environment

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, 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
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
M cPherson	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
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
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

(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.

(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 $\frac{1}{64}$ 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;

(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.

(s) "Maximum synthetic membrane liner leakage rate" means a monitored or calculated leakage rate that is the more stringent of either $\frac{1}{64}$ 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, 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.

(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 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.

(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 May 20, 2005.)

***** Authenticated Kansas Administrative Regulation *****