Kansas Administrative Regulations

Department of Health and Environment

Article 29.—Solid Waste Management—Part 7. Municipal Solid Waste Landfills.

28-29-111. Groundwater monitoring systems; applicability and design.

(a) The requirements in this regulation shall apply to all MSWLF units, except as provided in subsection (b).

(b) Groundwater monitoring requirements may be suspended by the department for a MSWLF unit if the owner or operator demonstrates that there is no potential for migration of hazardous constituents from that MSWLF unit to the uppermost aquifer during the active life of the unit and the post-closure care period. This demonstration shall be certified by a qualified groundwater scientist and approved by the department, and shall be based upon:

(1) site-specific field-collected measurements, sampling, and analysis of physical, chemical, and biological processes affecting contaminant fate and transport; and

(2) contaminant fate and transport predictions that maximize contaminant migration and consider impacts on human health and environment.

(3) For the purposes of K.A.R. 28-29-111 and K.A.R. 28-29-112, "hazardous constituent" means all constituents listed in appendix I and appendix II of K.A.R. 28-29-113.

(c) Each owner or operator of a MSWLF unit shall comply with the groundwater monitoring requirements of this part according to the following schedule.

(1) Each existing MSWLF unit or lateral expansion less than or equal to one mile from a drinking water intake, surface or subsurface shall be in compliance with applicable groundwater monitoring requirements in K.A.R. 28-29-111 through K.A.R. 28-29-114 by October 9, 1994.

(2) Each existing MSWLF unit or lateral expansion greater than one mile but less than or equal to two miles from a drinking water intake, surface or subsurface, shall be

in compliance with applicable groundwater monitoring requirements in K.A.R. 28-29-111 through K.A.R. 28-29-114 by October 9, 1995.

(3) Each existing MSWLF unit or lateral expansion greater than two miles from a drinking water intake, surface or subsurface, shall be in compliance with the groundwater monitoring requirements in K.A.R. 28-29-111 through K.A.R. 28-29-114 by October 9, 1996.

(4) Each MSWLF unit which meets the requirements of K.A.R. 28-29-103(a) and is less than or equal to two miles from a drinking water intake, surface or subsurface, shall be in compliance with applicable groundwater monitoring requirements in K.A.R. 28-29-111 through K.A.R. 28-29-114 by October 9, 1995.

(5) Each MSWLF unit which meets the requirements of K.A.R. 28-29-103(a) and is greater than two miles from a drinking water intake, surface or subsurface, shall be in compliance with the groundwater monitoring requirements in K.A.R. 28-29-111 through K.A.R. 28-29-114 by October 9, 1996.

(6) Each new MSWLF unit except those meeting the requirements of K.A.R. 28-29-103(a), shall be in compliance with the groundwater monitoring requirements specified in subsection (f) before waste may be placed in the unit.

(d) Once a MSWLF unit has been established, groundwater monitoring shall be conducted throughout the active life and post-closure care period of that MSWLF unit.

(e) For the purposes of K.A.R. 28-29-100 through K.A.R. 28-29-121, a "qualified groundwater scientist" means a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields. Sufficient training may be demonstrated by state registration, professional certifications, or completion of accredited university programs that enable that individual to make sound professional judgements regarding groundwater monitoring, contaminant fate and transport, and corrective action.

(f) Groundwater monitoring systems.

(1) A groundwater monitoring system shall be installed that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield groundwater samples from the uppermost aquifer that:

(A) represent the quality of background groundwater that has not been affected by leakage from a unit; and

(B) represent the quality of groundwater passing the point of compliance.

(2) The owner or operator shall maintain records that, at a minimum include the following:

(A) exact well three-dimensional location;

(B) well size;

(C) type of well;

(D) the design and construction practice used in well installation; and

(E) well and screen depths.

(3) The monitoring wells, piezometers, and other measurement, sampling, and analytical devices shall be operated and maintained so that they perform to design specifications throughout the life of the monitoring program. The owner or operator shall maintain wells to operate throughout the design period of the landfill.

(4) Standards for the location of monitoring points in the detection monitoring system.

(A) Each monitoring well shall be located in a stratigraphic horizon that could serve as a contaminant migration pathways.

(B) Lateral distance from the unit.

(i) For new units, each monitoring well shall be established at a lateral distance not greater than 150 meters (492 feet) from the planned edge of the unit. Each well shall be located on the owner's or operator's property, and shall be at least 15.24 meters (50 feet) from the property boundary. The requirements of paragraph (f)(4)(B)(i) shall not apply to vertical expansions or existing units that are in operation on October 9, 1996.

(ii) For existing units, each monitoring well shall be established at a lateral distance not greater than 150 meters (492 feet) from the planned edge of the unit, and shall be located on the owner's or operator's property.

(C) The number, spacing, and depths of monitoring wells shall be:

(i) determined based upon site-specific technical information gathered from the hydrogeologic investigation conducted pursuant to K.A.R. 28-29-104(b); and

(ii) certified by a qualified groundwater scientist.

(D) The network of monitoring points of several potential sources of discharge within a single facility may be combined into a single monitoring network, provided that discharges from any part of all potential sources can be detected. The following information shall be provided by the owner or operator as requested by the department for use in evaluating an owner's or operator's proposal for a multi-unit monitoring system:

(i) number, spacing, and orientation of each MSWLF unit;

(ii) hydrogeologic setting;

(iii) site history;

(iv) engineering design of each MSWLF unit; and

(v) type of waste accepted at each MSWLF unit.

(5) Well construction standards.

(A) Each monitoring well shall be constructed in accordance with K.A.R. 28-30-6.

(B) Each monitoring well shall be cased with inert materials that will not affect the water sample. Casing requiring solvent-cement type couplings shall not be used.

(C) Each well shall be screened to allow sampling only at the desired interval. The slot size of the screen and filter pack shall be designed to minimize turbidity. Screens shall be fabricated from material expected to be inert with respect to the constituents of the groundwater to be sampled.

(D) Each well shall be equipped with a device to protect against tampering and damage.

(E) Each well shall be developed to allow free entry of water and minimize turbidity of the sample.

(F) The transmissivity of the zone surrounding each well screen shall be established by field-testing techniques.

(Authorized by K.S.A. 1993 Supp. 65-3406; implementing K.S.A. 65-3401; effective Oct. 24, 1994.)

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